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KING'S COLLEGE LONDON

PRESENTED BY THE COUNCIL OF
THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

DESCRIPTIVE CATALOGUE

OF THE

PATHOLOGICAL SPECIMENS

CONTAINED IN

THE MUSEUM

OF

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

SECOND EDITION

BY

SIR JAMES PAGET, Bart.,
MEMBER OF THE COUNCIL OF THE COLLEGE,

WITH THE ASSISTANCE OF

JAMES FREDERIC GOODHART, M.D.,

AND

ALBAN H. G. DORAN,
FELLOW OF THE COLLEGE.

KING'S COLL

VOLUME IV.

MORBID CONDITIONS OF THE URINARY ORGANS, OF THE NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSES, OF THE GENERATIVE ORGANS AND BREAST, AND THE ANATOMY OF STUMPS.

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PREFACE TO THE FOURTH VOLUME.

The specimens added to the Pathological Museum during the time occupied in the printing of the successive Volumes of the Catalogue have been described by Mr. Frederic S. Eve, who was appointed Pathological Curator in 1881. He has microscopically examined many of the older specimens and has added notes of their minute structure to the descriptions given in the last Edition of the Catalogue; he has adjusted the arrangement of some of the Series in accordance with recently acquired pathological knowledge, has constructed many of the Indices, and has taken part in revising all the proof-sheets.

Descriptions of the specimens added after the printing of the Catalogue will be found in interleaved copies in the Museum.

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PATHOLOGICAL CATALOGUE.

Division II. SPECIAL PATHOLOGY.

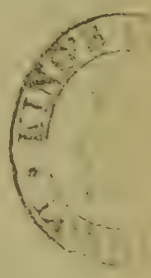
Series XXXVII. DISEASES OF THE SUPRA-RENAL CAPSULES.

Hypertrophy: 3517.
Tubercle: 3514, 3515.
Addison's Disease: 3514 to 3516.
Morbid Growths: 3518.

3514. A suprarenal capsule with the adjacent vena cava. The capsule is converted into a firm yellow dry mass. It is abnormally close to the vena cava and compresses its own vein, above which a bristle is passed.

From a man aged 46, who died of Addison's disease.

Presented by Dr. Lediard.



3515. The two kidneys with the corresponding suprarenal capsules and the ganglia of the abdominal sympathetic nerve, dissected to show the state of the nerves in Addison's disease. The capsule on each side is converted into a large yellow, but shrivelled mass, and the large ganglia and nerve-trunks are thickened and involved in the inflammatory product around it.

Presented by Dr. Goodhart, 1879.

3515 A. The suprarenal capsules with the semilunar ganglia and solar plexuses dissected, from a case of Addison's disease. Both the suprarenal capsules are enlarged and very dense, and a section of their substance exposes a yellow material streaked with brown pigment. The ganglia and nerves surrounding them are thickened by increase of their connective tissue.

From a gentleman aged 40, who took a voyage from America for the benefit of his health. He suffered from sickness during the whole passage, and was much exhausted on his arrival in England, when he was attacked with diarrhœa. Death took place from syncope two days afterwards. There was no bronzing of the skin, and the only other morbid condition observed was some old fibroid thickening of the apex of one lung. (See MS. Notes, vol. iii. p. 198.)

Presented by Dr. Goodhart, 1882.

3516. A portion of skin showing the bronze-coloured pigmentation commonly observed in Addison's disease.

Presented by Dr. Goodhart, 1881.

3517. A suprarenal capsule in section, with a large rounded mass in its substance. The remainder of the capsule is distended into a cyst. The enlargement is due to a hypertrophy of the cell-columns of the suprarenal capsule with fatty degeneration of the contained cells.

From a woman aged 55, who died after ovariotomy. There were no symptoms of suprarenal disease.

Presented by Alban Doran, Esq.

3518. A suprarenal capsule much enlarged by a new growth, believed to be cancer.

From a man aged 31, who died with cancer of the lung, heart, kidneys, and intestine. One capsule was entirely destroyed, being converted into a medullary mass as large as a pullet's egg. The other was similarly diseased, but still displayed some slight remains of its natural structure at one part. There was no bronzing of the skin. The lung is preserved, No. 3423. (*Vide* Path. Soc. Trans. vol. xiv. p. 40.)

Presented by Dr. Peacock, 1876.

Series XXXVIII. INJURIES AND DISEASES OF THE KIDNEYS.

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- Bullet-wound: 3519.

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- Fatty Degeneration: 3540.
- Lardaceous Change: 3541.

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Injuries of the Kidney.

3519. A kidney and its capsule from a lad, aged 15, who had been accidentally shot through the abdomen by a pistol-ball of the size of a pea. The track of the ball through the kidney is shown by a white glass rod. It passes obliquely through the medullary cones and pelvis from one side of the organ to the other. The capsule appears to be thickened and blood-stained. The wound in the gland-tissue still remained open, but that in the capsule had healed. The gall-bladder also was perforated. Death occurred a month after the injury.

During the time the patient lived there was a profuse discharge containing large quantities of bile. The urine first passed after the injury contained a little blood, but not afterwards. No urinary symptoms occurred afterwards. The duodenum also was perforated, but this was thought to be due to ulceration. The ball was removed from under the skin of the loin two days before death.

Presented by F. Legros Clarke, Esq., 1870.

Atrophy and Degeneration.

3520. Section of a kidney, showing, as is usual in atrophy, a greater than natural accumulation of fat around the pelvis, infundibula, and calyces. The kidney itself is rather reduced in size, its surface is slightly lobed, and there are smooth-walled serous cysts in its interior. The pelvis and calyces are dilated; and the ureter is dilated and tortuous and its coats are thickened and indurated. *Hunterian.*

3521. A kidney which has undergone an extreme amount of contraction. It measures only $1\frac{3}{4}$ by $\frac{3}{4}$ of an inch; it is granular on the surface, and its arteries are thick and rigid. The ureter is of natural size. Microscopically, the Malpighian capsules are unduly crowded together, but their vessels are not abnormal. The renal tubules, on the other hand, seem all to have disappeared. An excess of fat extends

from the pelvis towards the cortex. Glass rods are inserted into the vessels and ureter at the pelvis.

From a woman, aged 68, in whom the other kidney was larger than usual and cystic.

In the absence of any further history, it seems doubtful how far the extreme diminution of the organ was due to wasting, and how far to chronic inflammatory and fibroid changes. But seeing that the vessels look fairly healthy and that the other kidney was larger than usual, it is not improbable that there had been some obstruction to the ureter in some part of its course, and that, in consequence of this, the kidney wasted.

Presented by Dr. Thurnam, 1871.

3522. Section of a kidney, in which the pelvis and calyces are dilated, in consequence of obstruction to the excretion of urine. It shows the gradual flattening and pressing outwards of the points of the papillæ, which take place when the calyces into which they project are dilated around them, and which constitute the first degree of expansion or dilatation of the kidney. A slight elevation at the centre of each dilated calyx marks the former projection of its papilla, and from the centre of this elevated part the usually straight blood-vessels between the urinary tubules are seen radiating towards the circumference of the calyx.

From a boy who had the polypi of the bladder preserved in No. 3693.

The preparation is represented in 'A Treatise on the Urinary Calculus,' by J. G. Crosse, 4to, 1835, pl. xx. fig. 4.

Presented by J. G. Crosse, Esq.

3523. The other kidney of the same child.

Presented by J. G. Crosse, Esq.

3524. A kidney, with the surrounding substance. The glandular substance of the kidney is reduced to a layer which is not anywhere more than one third of an inch in thickness; and the papillæ are very small. The surface of the kidney is seamed and puckered, but not granulated. The pelvis and calyces are all much dilated, but they are healthy in

texture. The capsule of the kidney and a layer of fat, nearly half an inch thick, surrounding it and the pelvis appear to have coalesced so as to form one distinct sac.

From a man who died at St. George's Hospital after operation for the stone.

Hunterian.

3525. A similar specimen. In consequence of stricture of the urethra, the ureter, pelvis, and calyces are all enlarged; the papillæ of the kidney are no longer prominent, and much of its proper substance has been lost by atrophy. The external form and size of the kidney are not altered.

Hunterian.

3526. A similar specimen, in which the dilatation of the pelvis and other parts, and the removal of the substance of the kidney have made further progress.

The preparation is figured in Hunter's Treatise on the Venereal Disease, and with his "Works," pl. xiv.

Hunterian.

3527. Section of a kidney, of which the ureter, pelvis, and infundibula are much enlarged, and nearly all the glandular substance is removed. The organ is thus reduced to a thin-walled multilocular sac, of rather less size than the healthy kidney. Its capsule is thickened and indurated.

Hunterian.

3528. "The kidney become very small, and the ureter much enlarged. The patient never had any complaint in this kidney; the other was of the natural size." (*Hunterian MS. Catalogue.*) The kidney is scarcely more than two inches long; it is lobed, and looks shrivelled; the size of its blood-vessels is proportionally diminished; the pelvis and ureter are dilated, but not structurally diseased.

Hunterian.

3529. A similar specimen. In consequence, probably, of obstruction in the upper part of the ureter, the pelvis is greatly dilated, and the proper renal substance nearly all removed. What remains of the substance of the kidney forms a thin-walled sacculated cavity, which is about half as large as a healthy kidney, and has on its upper surface a distinct membranous serous cyst. The parts have been dried after a coarse injection of the blood-vessels.

From the same patient (a surgeon) as the genital organs, No. 4210.

From the Museum of Sir A. P. Cooper.

3530. Section of a kidney, in which, as in the preceding specimens, the pelvis and the beginning of the ureter are dilated into an elongated oval sac, an inch and a half in diameter. All the divisions of the pelvis are similarly dilated, and the glandular substance of the kidney is almost entirely removed. Its external dimensions are a little reduced, and it forms a single sac divided by three incomplete partitions, and lobulated. The lower part of the ureter is of natural size. *Presented by Sir William Blizard.*

3531. A kidney, nearly the whole glandular substance of which has disappeared by atrophy. Its remains are drawn inwards towards the pelvis ; and the calyces, having been dilated, project in globular tough-walled sacs upon the surface of the wasted organ. The pelvis is dilated ; but the ureter is very small. *Hunterian.*

3532. Section of a kidney, of which the pelvis, calyces, and proper substance are dilated, but not changed in texture. In two places, the flattening and pressing back of the papillæ are shown, as in the preceding specimens : each papilla, instead of projecting into the extremity of the calyx, forms but a slight prominence beneath its distended mucous membrane. *Hunterian.*

3533. A urinary bladder, and a kidney with its ureter. The muscular coat of the bladder is hypertrophied; its mucous membrane is thickened and wrinkled. The ureter is slightly dilated, a small calculus being lodged near its vesical end; the pelvis and its branches are much more dilated; the external dimensions of the kidney are increased, but its substance, by a continued process of dilatation like that shown in the preceding specimens, is reduced to a layer between one and three lines thick.

From an elderly man. A larger calculus produced similar obstruction in the other ureter, and similar disease in the other kidney. This specimen is represented in Mr. Crosse's Treatise already referred to, in pl. viii. fig. 2.

Presented by J. G. Crosse, Esq.

3534. A kidney, similarly enlarged in external dimensions by dilatation or expansion around the dilated calyces. The blood-vessels are injected, and the remains of the substance of the kidney appear healthy.

From the Museum of Robert Liston, Esq.

3535. A kidney, in which the pelvis and all its branches are greatly dilated, in consequence of obstruction of the ureter. The glandular substance of the kidney is wasted and expanded over the dilated parts; but it appears to have its natural structure, and its vascularity, as well as that of the pelvis and its branches (shown by minute injection of the vessels), is not diminished.

From a lady, above 60 years old, who died with cancer of the breast. Numerous small calculi were in the pelvis and calyces, and small calculi obstructed the ureter. The specimen is represented in Mr. Crosse's Treatise, pl. v.

Presented by J. G. Crosse, Esq.

3536. Section of a Sheep's (?) kidney, with its ureter. The ureter, pelvis, and all its branches are very much dilated; and the glandular substance of the kidney is so expanded and atrophied, that it forms a single thin-walled sac, with

shallow recesses formed by the projection of the remains of the calyces. *Hunterian.*

3537. Two kidneys, with portions of their ureters. One of the kidneys is reduced by atrophy to half its natural size ; its glandular substance is nearly all removed ; its pelvis, which contained a large calculus, is dilated ; and so is its ureter, in which a smaller calculus was lodged. The other kidney is, in external dimensions, much enlarged ; and its glandular substance is little, if at all, diminished, though expanded around the pelvis and calyces, which contained numerous calculi, and are dilated even more than those of the kidney first described.

The calculi are preserved separately. *Hunterian.*

3538. A kidney, dilated into a multilocular and superficially lobed sac, measuring nine inches in length and about fifteen inches in circumference. Its glandular substance is reduced by the dilatation to a layer from half a line to a line thick surrounding the sac, and formed by the dilated calyces. Its capsule is rather thickened. The pelvis is dilated ; the ureter, at its commencement, is obliterated, apparently by the deposit of lymph on its interior, and by the thickening and constriction of its walls.

The patient was 19 years old, and for three years before death had signs of disease of the kidney. His urine was passed with difficulty, though there was no disease of the urethra ; it was turbid, and sometimes mixed with blood and gravel. In the last year of his life the enlarged kidney could be felt in the left hypochondrium ; he had violent pain in the loins, in addition to his other symptoms ; the urine was loaded with mucus, and at one time a very large quantity of blood was passed with it. When these symptoms at last subsided the tumour was felt to increase rapidly.

The distended kidney occupied more than half the abdominal cavity, extending from the iliac fossa to the diaphragm ; it was filled with five pints of offensively smelling pus and urine, and contained a great number of *pisiform* (oxalate of lime) calculi, which are described in the Series of Calculi, C. 29 ; Catalogue of Concretions, p. 82, and pl. viii. fig. 6. The right kidney, the bladder, and all the other organs were healthy.

From the Museum of George Langstaff, Esq.

3539. Part of the calculi removed from the pelvis of the kidney last described.

From the Museum of George Langstaff, Esq.

3540. A kidney, with its blood-vessels injected and its cortical part much increased in thickness by fatty degeneration of the epithelium of the convoluted tubes (fatty kidney). The pelvis contains numerous calculi and is dilated.

From a man, about 50 years of age, who had been suffering for many months with disease of the spine and of the wrist-joint, which proved fatal. The kidneys had given no indication of disease during life.

Presented by Dr. Goodhart, 1873.

3541. A longitudinal section of a lardaceous kidney which has been soaked in a solution of iodine. The Malpighian capsules and the straight vessels running from the bases of the pyramids are stained of a mahogany-brown colour.

Presented by Charles Stewart, Esq., 1884.

Cysts.

3542. A kidney, on the outer surface of which, and deeply imbedded in it, is a thinly walled membranous cyst, of spherical form and measuring six inches in diameter. The kidney itself is enlarged and especially elongated ; its surface is granular, and exhibits a few more cysts of the same kind, but only a line or two in diameter. The pelvis, ureter, and renal vessels are healthy. *Hunterian.*

3543. A similar specimen. The cyst is oval, about three inches in its greatest diameter, and situated upon the anterior surface of the kidney. The kidney is of natural size, but slightly granular. Its blood-vessels have been partially injected with a white fluid. *Hunterian.*

3544. A kidney, with a large cyst like the preceding attached to its surface, but scarcely at all imbedded in it. The cyst is nearly four inches in diameter and its walls having

coalesced with the fibrous capsule of the kidney, are tough, and nearly half a line in thickness. Its interior is smooth, but not polished. *Hunterian.*

3545. Section of a left kidney, in which there are numerous cysts. Most of them are on the surface of the kidney, but the largest, which is an inch in diameter, is in its interior. The surface of the kidney is granular, and near one end of it are two small, prominent tumours or cysts filled with solid substance. *Hunterian.*

The specimen was taken from the body of Mr. Robert Home, the father of Sir Everard Home, whose case is preserved in the Hunterian MSS.

"*The Case of Mr. Home.*

"*July* 1783.—He was attacked with a kind of fit similar to an apoplexy. He lost, in some degree, the use of one side, as also his sight. His memory was very much impaired; however, in time he got tolerably well, all the powers being again nearly restored.

"*July* 1784.—He was again attacked with a similar stroke. He lost entirely his sight, felt a small numbness in one hand, lost almost entirely his memory.

"This last was productive of some curious effects; it brought him, in a great many circumstances, to the state of the brute, or at least what I can conceive that state is, respecting reasoning.

"The total loss of sight, with almost the entire loss of memory, produced a very curious effect: he lost entirely the remembrance of light, and did not annex any idea to light, although he would say that he had not seen you for some time, meaning you had not been there for some time.*

"*The Appearances upon opening the Body of Mr. Home.*

"On sawing through the skull it was found very difficult to avoid cutting through the dura mater; and when sawing through its back part, immediately upon wounding the dura mater with the saw, there came out a considerable quantity of water, which was only a little tinged with blood. A basin was immediately put under it to collect it.

"The dura mater was obliged to be taken off with the skull,

* "This expression arose from the very same idea to those of a blind man, who is conscious of being blind. In the man conscious of his blindness it is a word of course, keeping up to common language, but knowing the impropriety of it when he thinks of it; and in the other he used the same language from habit also, but without the probability of knowing that he is wrong."

for it rather tore than separated from it. Nothing remarkable appeared on the external surface of the brain. On cutting off the upper part of the two hemispheres of the brain we observed that the medullary substance was not so white as common, and had a brownish cast.

"The corpus callosum was flat, and appeared loose; on cutting through it longitudinally into the right lateral ventricle, we found the ventricle large, as also the additamentum; but not the least drop of water in it. The fornix was detached from the thalami through its whole length, and the plexus, at this attachment, appeared loose. The left lateral ventricle exactly like the right in every circumstance.

"All those above-mentioned parts were so detached as to appear as if they had been already dissected and put together again.

"The thalami nervorum opticorum were more rounded than common; their two flat surfaces, which are commonly in contact with each other, were at some distance, and rounded off at the upper edge; so there were no edges to them, and the cortical union between them appeared (from this alteration of form) to be at their upper part, instead of being low down between them.

"When the whole brain was taken out we observed that the under surface of the posterior lobes of the cerebrum, which lie on the transverse ligaments of the dura mater, were of a yellow colour, with a longitudinal hollow in them, and the pia mater there very loose, like a collapsed bag or membrane. On cutting through this loose membrane of the right side we got into a bag, and which seemed to lead to between two portions of the brain; and on putting my finger into the additamentum it was led into this bag. To ascertain the true state of these parts I examined the left side with more attention, and, on cutting through the membrane of the left side, I found that I also got into a bag; but the bottom of this, or that suface next to the brain, did not lead me, as in the former, between two portions of the brain, but it was membranous, and in the middle seemed to pass over between the two portions of the brain, uniting them. I then, as before, passed my finger into the additamentum of this side, and my finger immediately appeared on the other side of this membrane between the two portions of the brain.

"I examined carefully to see if there was any communication between the additamenta and this bag through this membrane, and found, in the partition between the two, a small hole: but I could not say whether this had or had not been made in the time of the examination, but I am rather inclinable to believe it was not, from circumstances that shall be mentioned.

"These bags appeared to be the pia mater, but whether they were formed in its doubling, or some adventitious membrane forming a bag, I cannot say. The quantity of water, in the whole, might be about six ounces. The brain, upon the whole, was rather softer than usual, although not much.

"The questions here that naturally arise are, What are these bags? and Did the lateral ventricles communicate with them?

I think, when every circumstance is considered, we must suppose they did; for, first, there was a great deal of water spilt previous to the removal of the skull, which certainly came from these bags; secondly, the three first ventricles were very large, and yet contained no water; therefore it is reasonable to suppose that the whole water of the ventricles had escaped through these bags. But another question arises—By what cause were these bags formed? Were they formed by the distention of the ventricles, and then bursting at those parts, so that the water came in contact with the inside of the pia mater, then forming a bag? Or did an extravasation of blood take place at those two parts, either in the doubling of the pia mater, or between it and the brain, and then a communication between these bags and the ventricles was formed by the extravasation, and that the distention of the ventricles was rather an effect of this than a cause of the first?

"The gall-bladder had a stone in it about the size of a common nutmeg, and it was so contracted over the stone as just to contain it.

"The right kidney had a large hydatid attached to its lower end and outer edge, which might contain more than a pint of a bloody fluid. There were also some smaller ones, with a tumour formed on the end of the kidney. The left kidney had two small tumours placed on its external surface, with some small hydatids. No calculi in the pelvis. The ureters of the natural size.

"There were found in the urinary bladder fourteen calculi, two of them nearly of the size of nutmegs, the other twelve much smaller; most of them had flat sides, terminating in rounded angles, and being of a prismatic figure, having three sides with two ends. The two large ones had the appearance, in one part of each, as if a piece of the external layer had been separated and gone, and that the sharp edges were now rounded by new matter having been laid on them."—*Hunterian MS. Cases and Dissections*, No. 25.

3545 A. The kidney of a white Rat, containing a circular well-defined blood-tumour in its cortical structure.

The animal had been bred in a cage. The tumour is surrounded by a distinctly defined capsule, and occupies this as blood-clot may fill a cyst from which it is quite separate. Both kidneys were *granular*, and the lungs œdematous. Under the microscope the clot gave no indication of any new growth: and it is probable that it was merely blood extravasated into a pre-existing cyst in a diseased kidney. The animal had been ill some time, passing a blood-tinged urine. It had also shivering and convulsions.

Presented by John Birkett, Esq.

3546. Section of a kidney, enlarged and exhibiting numerous

small oval cysts scattered irregularly through its substance and immediately beneath its surface. They have smooth walls, and are formed of distinct thin membrane. The pelvis, calyces, and ureter are dilated, but their texture appears healthy. *Hunterian.*

3547. Section of a kidney, enlarged to four or five times its natural size by the formation of numerous cysts within it and upon its surface. The cysts vary in size from half a line to an inch and a half in diameter : the largest are in the central parts of the kidney ; their original form appears to have been spherical, but where they are closely crowded they have become irregular and angular. Their walls are formed of distinct thin membrane, polished on its internal surface, and externally intimately connected with the remains of the substance of the kidney. Their contents appear various : some are filled with transparent, probably serous, fluid ; some with a dark yellowish or brown and viscid substance ; some with a turbid, nearly solid, material. The original substance of the gland is in some parts wholly removed ; in other parts small portions remain intervening between the cysts, and appearing healthy in their texture.

Hunterian.

3548. The other section of the kidney last described. The renal capsule is preserved with it, and appears healthy.

Hunterian.

3549. A kidney, somewhat enlarged and converted into a congeries of cysts. The other kidney was in a similar condition. The cysts do not communicate with the calyces or with each other. Most of them contained a serous fluid. It is a specimen of cystic degeneration of the kidney in the adult, a disease which is probably due to expansion of parts of the uriniferous tubules and atrophy of the intermediate parts.

From a man aged 67, who had atheromatous vessels, and who died of apoplexy. The heart only weighed 9½ oz. The lungs

were emphysematous. The state of the kidneys was not recognized during life.

Presented by Dr. Goodhart, 1874.

3550. Sections of a kidney, similar to Nos. 3547–8, and with cysts filled with equally various contents.

3551. Sections of a kidney, similarly diseased. The cysts are of various sizes; many of them very large. They were for the most part filled with solid matter, consisting of molecules of fat, epithelium-cells, and crystals of cholestearine and triple phosphate. The blood-vessels of the kidney are minutely injected. Microscopic examination showed that the cysts are formed by enlargement of the Malpighian capsules, within which, and, in some instances, expanded on their walls, the Malpighian tufts or glomerules of blood-vessels were seen. *Presented by William Lawrence, Esq.*

3552. Section of a kidney, very greatly enlarged by the development of numerous cysts within it and upon its surface. None of the original substance of the gland can be seen. The cysts are mostly spherical, except where their walls are flattened by mutual pressure. The largest are about an inch and a half in diameter. Some of them are filled with a pale-coloured, soft, solid homogeneous material.

3553. A section of a kidney, very much enlarged and having its secreting structure almost entirely replaced by cysts. The two kidneys were alike. The other viscera were healthy.

The patient, a sailor aged 50, received a compound fracture of one leg during a voyage. Four weeks later he was admitted to the London Hospital. The fracture was healing, when symptoms of brain-disease ensued and he became delirious, and died in a few days.

Presented by Jonathan Hutchinson, Esq., 1870.

3554. A kidney, exhibiting in section and beneath its surface numerous cysts varying from minute specks to cavities one

fourth of an inch in diameter. The substance of the kidney appears swollen and cloudy, and the distinction between the medullary and cortical portions is lost; but the connective tissue does not appear to be increased, nor is the capsule thickened.

From a man, who died with typhoid fever; no symptoms of renal disease were observed during life.

Presented by Dr. Goodhart, 1881.

3555. A similar specimen.

The patient, a shoemaker, had for five years had severe pain in the loins and along the course of the ureters. His urine was scanty, and always mixed with blood or a purulent fluid. He had numbness of the right leg, frequent severe headache, and occasional œdema of the lower extremities. The other kidney was in the same state; the ureters were dilated. The lungs were full of miliary tubercles. The other organs were healthy.

Presented by —— Chambers, Esq.

3556. Section of a kidney, much enlarged, of which the secreting structure has been almost, but not entirely, destroyed by the development within it of very numerous thin-walled cysts, with fluid contents.

Presented by Sir James Paget.

3556 A. Section of a sacculated kidney from a still-born fœtus. The proper substance of the kidney is replaced by an agglomeration of cysts varying from two inches and a half to a quarter of an inch in diameter.

In the other half of the specimen the largest cyst was connected with the undilated pelvis of the kidney by a long tube, probably the stretched and dilated infundibulum; the cysts, it may be presumed, were produced by dilatation of the primary subdivisions of the undeveloped kidney represented by the calyces in the fully-formed organ. The ureter was obliterated at its lower end, and was continued as a fibrous cord to within a quarter of an inch of the bladder, where it again became pervious.

The other half of the specimen is in the Museum of St. Thomas's Hospital, AA 54.

Presented by Charles Stewart, Esq., 1884.

3556 B. A cystic kidney removed by operation from a child. The specimen is composed of a spherical cyst, and around one half of its circumference is an elongated cylindriform cyst, the free surface of which is widely crenated. The spherical cyst is the dilated pelvis, and the elongated cyst the dilated, atrophied, and probably malformed parenchymatous portion of the kidney. Traces of the pyramidal and cortical portions remain on the posterior surface of this cyst. The ureter was represented by a thin fibrous cord.

A tumour was observed in the child's abdomen at the age of two years. At the age of six years, six and a half pints of brownish, thick, and slightly albuminous urine were removed by tapping, and soon afterwards removal of the kidney was successfully performed. From the early age at which the tumour appeared, and from the condition of the ureter, it may be inferred that the dilatation of the kidney was congenital and due to the defect in the ureter. (See Trans. Path. Soc. vol. xxxi. p. 167, and 'Lancet,' June 5th, 1880.)

Presented by J. Knowsley Thornton, Esq., 1881.

3557. A spherical renal cyst about a foot in diameter. Its walls are thick and fibrous, and occupying one side of its inner surface are a series of vertically-placed loculi, which are supposed to be dilated calyces. The pervious ureter enters the cyst near the middle of its front aspect.

From a woman aged 43, who, when twelve or fourteen years old, was struck violently on the abdomen, near the left ilium, with an iron shovel; she subsequently suffered pain and distress referred to this injury. When thirty years of age she noticed a swelling in the hypogastric and left iliac regions, and ten years later it had attained the size of an infant's head. Not long after this the cyst was tapped and two gallons of discoloured fluid of the consistence of pea-soup were let out. Finally, an exploratory operation was performed, from the effects of which the patient died. The right kidney was found to be also hydronephrotic, and contained a calculus weighing forty grains.

Presented by Sir T. Spencer Wells, 1867.

3558. A large thick-walled cyst, with numerous flocculent adhesions externally and peculiar thick laminæ internally, which occupied the region of the kidney. The walls are extremely tough, almost cartilaginous; more so in some

parts than in others; and in some parts lobulated masses project into the cavity.

It was taken from a woman, aged 72, who died of right hemiplegia. It formed a large smooth swelling, occupying nearly half the abdomen, and on being opened was found to contain two quarts of purulent fluid. It consisted of an hypertrophied capsule containing some caseous masses, the renal tissue being almost entirely destroyed. (See 'Transactions of the Medical Society of London,' vol. iii. p. 15.)

Presented by Dr. Dowse, 1876.

3558 A. A large tough-walled cyst, probably dermoid, which was found in the place of one of the kidneys of a Sheep, and contained a mass of wool rolled up with fluid oil and fatty matter. The cyst is inverted; its walls are from one to two lines in thickness; its inner surface is rough and covered with portions of fatty substance, and part of the wool is fixed in it. A long, cylindrical, tubular process is continued from the main cyst, and is similarly filled.

The cyst was found in the middle of the mass of fat in which it was expected that the kidney lay. No trace of kidney appeared. The sheep was healthy and very fat, and had a good fleece. The kidney on the other side was very large.

Presented by W. Walcot, Jun., Esq.

Bright's Disease.

3559. Sections of the kidneys of a gentleman, who died after three days of complete suppression of urine. The kidney is pale, cloudy, and enlarged as if swollen.

Presented by Sir Everard Home.

3560. Kidneys which, like those in the preceding preparation, had not secreted urine for three days before death. In these, also, the parenchyma is cloudy and appears swollen.

Presented by Sir Everard Home.

3560 A. A "large white" kidney injected. The kidney is swollen,

its section is cloudy, and the vessels of the cortical substance appear dilated. The surface is smooth, and the capsule was stripped off easily.

Presented by Frederic S. Eve, Esq., 1884.

3561. Section of a kidney affected with granular degeneration. It is rather smaller than is natural. The outer layer of its cortical substance is very thin, and its surface is coarsely and irregularly granular and in some situations pitted and seamed, as if it had been drawn inwards.

Presented by John Quekett, Esq.

3562. A section of the other kidney of the same person, similarly diseased ; its arteries have been minutely injected with red, its veins with yellow size.

The patient was an intemperate woman, 27 years old. The disease existed two years ; but after the first attack, which was ascribed to cold, and in which she had general dropsy with albuminous urine, she remained tolerably well till within a few days before her death. In her last illness she had bronchitis, œdema of the lungs, dropsy of the upper part of the body, and great effusion into the pericardium ; the urine was highly albuminous.

Presented by John Quekett, Esq.

3563. A kidney, the surface of which is irregular and minutely granular. The cortex is to some extent diminished in quantity, and the vessels thick.

This and the two following specimens have been injected, to show the usual appearances of the surface and section of the "small contracted," "red granular," "gouty," or "fibroid" kidney.

Presented by Dr. Goodhart, 1873.

3564. A "granular" kidney. In this preparation the changes are more advanced, the surface being much more irregular. Numerous small cysts are visible in the cortex, and the arteries are thick.

From a man aged 53, an organ-builder, who had occasionally worked in lead, and had had lead-colic. He had had cough for many years, and for the last ten weeks some œdema of the legs

and feet. His urine contained a fourth part of albumen, and was of a sp. gr. 1014. He became delirious, then comatose, and died.

The heart was enormously hypertrophied, the muscular wall measuring an inch and a half at its base. The kidneys weighed 5 or 6 oz., and were red and hard, their capsules thick, the cortex extremely wasted, the arteries thick-walled.

Presented by Dr. Goodhart, 1873.

3565. A "granular" kidney. The capsule is abnormally adherent. The cortex is somewhat wasted and irregular, and the pyramids are studded with minute points of urate of soda.

From a man aged 32, a gouty subject. He had had "rheumatic fever" at the age of nine, but good health since, except occasional pain in some of his joints. He was a carman, much exposed, but moderately temperate. Nine days before his admission to Guy's Hospital he vomited a large quantity of blood. His urine was of sp. gr. 1010 and albuminous. He had a slight attack of gout while in the Hospital, but was not thought to be very ill, when he suddenly vomited a large quantity of blood, perhaps two pints, and died very soon.

The heart weighed 16 oz. The kidneys 11 oz.; their surfaces were hard and mottled, and they contained a number of points of urate of soda. The left ankle contained also urate of soda.

Presented by Dr. Goodhart, 1873.

3566. A section of a granular kidney, the cortex of which is both irregular on the surface and diminished in thickness.

From a woman 57 years old, who had always enjoyed good health till a year before her death, when she was distressed by family troubles. She died from general atheroma of the cerebral vessels and apoplexy. The urine was of sp. gr. 1018, and not albuminous. The post-mortem showed that all the viscera were healthy except the kidneys and the brain; the vessels of the latter, both large and small, were like beaded pipes. The larger systemic arteries in other parts were not much diseased.

Presented by Dr. Goodhart.

Abscess.

3567. A portion of a kidney, showing its surface roughened by numerous small nodular elevations, the results of small

abscesses in the cortical structure. The pelvis is roughened, and contains patches of lymph.

The patient, aged 62, had suffered with old cystitis and enlarged prostate. Subsequently a calculus formed in the bladder. Lithotomy was performed, and the patient died. The urine was offensive and albuminous.

Presented by Dr. Goodhart, 1874.

3568. Sections of a kidney. It is nearly twice as large as is natural. Its section presents numerous small deposits, apparently drops of pus, irregularly scattered in its substance, and many small cavities. The lining membrane of the pelvis and calyces, and the ends of the papillæ, are deeply ulcerated, and have coarsely granulated surfaces; they were filled with purulent fluid.

From the Museum of Robert Liston, Esq.

3569. The other kidney of the same person. It is of its natural size. Its substance is nearly all removed, and what remains of it presents deposits like those in the other kidney. The pelvis and calyces are dilated, and their lining membrane has a granular ulcerated surface. There are also some cavities within the substance of the kidney, which appear to have been abscesses.

From an old man, who long had signs of disease of the urinary organs. His bladder was also much diseased.

From the Museum of Robert Liston, Esq.

3570. A kidney in which pus was extensively diffused through the cortical substance and between it and the capsule. The capsule has been removed; and the surface of the kidney is flocculent, and covered with shreds of its softened and broken tissue; it exhibits, also, numerous minute cavities and fissures, which contained pus. Its internal substance is softened, and the lining membrane of the pelvis is rough and shreddy.

From a man 60 years old, to whom tincture of cantharides had been administered for an incontinence of urine, which followed retention. The medicine produced extreme pain, in both the

bladder and kidneys, and retention of urine, which continued two days. When the urine was drawn off, it was fœtid and mixed with blood and pus. All power over the bladder was lost, and the patient, scarcely relieved of his sufferings, died in three weeks.

The prostate gland was much enlarged. The mucous membrane of the urethra was covered with lymph; that of the bladder was sloughing.

From the Museum of George Langstaff, Esq.

3571. Part of a kidney, in the tubular substance of which is the cavity of a small, irregularly walled abscess.

From a man who died at St. George's Hospital after the operation for the stone.

Hunterian.

3572. A portion of the other kidney of the same patient. The surface of one of the papillæ is incrusted with lymph and calcareous matter. *Hunterian.*

3573. A kidney, of which nearly the whole glandular structure has been removed. In its place there is a large cavity, which, together with the distended pelvis, formed the sac of a great abscess. The interior of the cavity is rough, with thick flakes and shreds of lymph; externally, its walls, in which there are plates of earthy substance, are united to a thick, hardened layer of the tissues by which the kidney and its pelvis were surrounded.

The patient, a young man, had long laboured under very obscure but severe symptoms. The abscess of the kidney formed a considerable swelling in the loins, and was supposed to be a lumbar abscess.

Presented by John Quekett, Esq.

Tubercle.

3574, 3574 A. The kidneys of a Baboon, the one whole, the other in section. Both contain numerous rounded nodules of tubercular matter about the size of peas, giving rise to elevations where they occur near the surface. One supra-renal capsule is enlarged and pale as if from tubercular deposit, and there are lymph-glands adjacent in a similar

state. The liver was healthy, but the brain (3773), heart (2930), and other organs were affected.

From an animal which died in the Zoological Gardens, June 20, 1863.

Tuberculous Pyelo-nephritis.

3575. Section of a kidney, from one half of which nearly all the substance is removed, apparently by ulceration, leaving large cavities lined with a thick and coarsely granulated, buff-coloured false membrane. Some of the cavities have small flakes of softened tuberculous matter adhering to their walls. In the other half of the kidney are numerous small, close-set deposits of tuberculous matter, which at one part have coalesced and softened. In the last-mentioned part the softened mass is partially surrounded with a layer of false membrane, like that which forms the walls of the cavities. The blood-vessels of the kidney are injected; and what remains of its substance appears healthy.

From the Museum of John Heaviside, Esq.

3576. A scrofulous or tuberculous kidney. It is much larger than normal, of a dull yellow homogeneous appearance: its pelvis is thickened, sacculated, roughened, and shreddy; and its ureter is in a similar state.

From a young man, aged about 25, who suffered for some weeks with hæmaturia. He had at first no symptoms of phthisis, although this disease was suspected from his rapid loss of strength. He died from exhaustion, and the post-mortem examination showed, in addition to the disease of the kidney, a similar state of the bladder and testes, and disseminated tubercle throughout the lungs.

Presented by T. Warner Lacey, Esq., 1876.

3577. Section of a kidney, in which the extremities of some of the pyramids have been destroyed by irregular ulceration, probably in consequence of tuberculous disease. There are a few small tuberculous deposits in other parts of the kidney; and beneath the mucous membrane of the pelvis

there are several isolated tubercles, some of which have softened and ulcerated by small apertures through the surface. *Hunterian.*

3578. A kidney, of which the ureter and the pelvis and all its divisions are dilated. Their lining membrane is generally ulcerated, and that of the calyces is thickened and coarsely granulated. The papillæ and portions of the adjacent substance of the kidney have been destroyed by ulceration, probably of tuberculous nature, and many cavities are thus formed which opened widely into the diseased calyces.

Presented by Sir Everard Home.

3579. A similar specimen.

The patient was a boy 15 years old, who died with extensive tuberculous disease of the lungs, urinary bladder, and rectum. He passed blood and pus with his urine for six years before his death, and towards the end of his life had incontinence of urine and diarrhœa.

Presented by Sir William Blizard.

3580. Section of a kidney, apparently from a child, in which, in the place of nearly all the natural texture, there are three large cavities roughly lined with lymph, and probably of tuberculous origin. The tissues around the kidney are thickened and indurated, and a calculus is imbedded in it near its surface. *Hunterian.*

3581. Section of a kidney, similarly diseased, probably from the same child, for the size and form of both the kidney itself and the cavities in it are exactly alike. *Hunterian.*

3582. Sections of a kidney, in which there are several cavities which appear to have been full of softened, inspissated, tuberculous matter.

"*November*, 1757. A man was dissected, and, on examining the kidneys, we found that that on the left was diseased. Its size was rather less than the other. The fat surrounding that was hard, and adhered very firmly to it. When this was removed, I found the surface of the kidney very irregular and white, especially

at the risings; and, on cutting into those white knobs, there came out a thick white mucus, like white paint, or chalk and water mixed. I examined the pelvis, and found a stone of a black colour, and the rest of the pelvis filled with a white substance. I divided the kidney nearly into two. Its substance was very firm and white. I found three or four cysts filled with white matter, and one of the cysts had its coat ossified and contained a clear water. In one of the cysts that contained the white matter was a stone like that in the pelvis, but no bigger than a pea. The cysts seemed to be in the cortical substance rather than in the tubular." —*Hunterian MS.: Dissections of Morbid Bodies*, No. 40.

3583. Sections of a kidney and of a renal capsule, "from a butcher whose smelling was remarkably acute." The substance of the kidney is atrophied, shrunken, and contracted, as if by cicatrization, especially in its middle part, where it is not altogether more than half an inch in thickness. At this part, also, there is some morbid deposit of white substance, probably thickened and dried tuberculous matter, in the kidney; and in other parts there are large serous cysts. An unusual quantity of fat is accumulated around the pelvis and its divisions. The renal capsule is enlarged and firm. *Hunterian.*

3583 A. A kidney enlarged, and with the lining membrane of the pelvis, calyces, and ureter dilated, thickened, very coarsely granulated, and in many places covered with tuberculous matter. On many parts, also, of the lining membrane there are small, superficial, oval and circular ulcers, about a line in diameter. *Hunterian.*

3583 B. A kidney, of which the lining membrane of the pelvis and ureter is thickened, granulated, and in parts superficially ulcerated. The substance of the kidney appears healthy. *Hunterian.*

3583 C. A kidney affected with tubercular pyelo-nephritis, which was removed by operation. The pelvis is dilated, and the parenchyma is replaced by several rounded loculi formed by dilatation of the calyces. The walls of the loculi are infiltrated with tuberculous material, and their inner surfaces,

with that of the pelvis, are shreddy and in parts covered with soft granulations. The long diameter of the dilated organ is seven inches.

From a thin, delicate-looking woman, aged 34, who, about a year before the operation, observed a small swelling on the right side of her abdomen. The kidney was removed through a median incision; the ureter in its upper part was much dilated. The patient recovered from the operation.

Presented by Dr. G. G. Bantock, 1884.

3583 D. Portion of a ureter dilated, and exhibiting a superficial circular tuberculous ulcer of its mucous membrane. The ulcer has a smooth base and a narrow, slightly elevated margin. There are several small points of ulceration on the adjacent surface of the membrane.

From the Museum of Sir A. P. Cooper.

Morbid Growths.

3584. The left kidney of a child, of the natural size, and apparently healthy externally and in section; but occupying its hilum is a rounded myo-sarcoma, one inch in diameter, which completely obliterates its pelvis. The ureter passes out between the kidney and the posterior surface of the tumour. The section of the tumour presents the appearance of interlacing bands, and is of a yellowish or faint brownish-white colour. The new growth is sharply defined from the kidney-substance by a layer of connective tissue, but the capsule of the kidney is continued over it.

Microscopically examined in 1881, the tumour was found to be composed largely of round cells with occasional fasciculi of spindle-cells; but widely distributed through this tissue were short and usually scattered fibres of striped muscle.

Hunterian.

3584 A. A tumour, seven inches in length and five in width, connected with the right kidney of the same patient. Its section shows interlacing bands of connective tissue, intermixed in places with a softer material, and thickly dotted in its lower half with cysts, none of which exceed one third

of an inch in diameter. The hilum and inner surface of a small, ill-developed kidney are loosely connected by areolar tissue to the surface of the tumour on the observer's right side.

In minute structure the tumour resembled the preceding, except in that the muscular fibres were more abundant, and formed fasciculi either parallel to each other or interlacing. (For a similar specimen see No. 470 *a*.) See Trans. Path. Soc. vol. xxxiii., 1882.

Hunterian.

3584 B. A striped myoma (rhabdomyoma) of the right kidney, with the left kidney, ureters, and bladder of a male child aged 13 months. The tumour, which weighed 1 lb. 13½ oz., occupied the right lumbar region and extended across the middle line. It is of soft consistency, and its section is pale, indistinctly lobulated, and in parts flocculent and ragged. No trace of kidney-substance can be discerned with the naked eye. The ureter passes down from the posterior surface of the tumour. The left kidney is natural.

Microscopically, the tumour consisted of intersecting bundles of striped muscle-fibres with tracts of small-celled tissue, chiefly of the spindle-shaped variety. The new growth appeared to be truly interstitial; it lay between and displaced the normal elements of the kidney.

The child had presented no signs of disease until about three or four months before it came under observation, when the mother noticed that its body was enlarged. He became emaciated, peevish, and in two months' time a distinct tumour was felt which steadily enlarged. (See Trans. Path. Soc. vol. xxxiii. p. 317.)

Presented by Dr. Dawson Williams, 1883.

3584 C. A kidney affected with cancer. It is six and a half inches long and four inches wide. The surface is largely nodulated or bossed, but the disease had not penetrated the capsule. The section is white, soft, and marked by bands of fibrous tissue, which give the tumour a lobulated appearance. Portions of unaffected kidney-substance are situated at the upper and back parts of the section. The ureter was not compressed; both it and the pelvis may be seen on the posterior surface of the growth.

Microscopically, the tumour possessed the usual characters of soft cancer, consisting of alveoli filled with small spheroidal epithelium.

The kidney was removed through a wound on the outer side of the rectus muscle. The patient, a man aged 63, passed very large quantities of blood in his urine. He died five days after the operation.

Presented by Sir T. Spencer Wells, 1883.

3585. Section of a kidney, in which there are several isolated and circumscribed masses of nearly white, medullary, cancerous substance ; they are of various size, from a line to half an inch in diameter : and of various form—round, oval, irregular. The blood-vessels are minutely injected, and the vascular aspect of the kidney contrasts strongly with the whiteness of the tumours, into which very little injection appears to have passed. The texture of the kidney appears healthy, even immediately adjacent to the tumours ; and it is not enlarged.

From the Museum of John Heaviside, Esq.

3586. Sections of a kidney, in which there are several small spherical, soft cancerous tumours. Like the preceding, its proper substance appears healthy.

From a woman who had carcinoma of the uterus.

From the Museum of George Langstaff, Esq.

3587. Section of a kidney, and of a tumour which occupies one end of it. The tumour has a spheroidal form, and is upwards of three inches in diameter ; it appears composed of a vascular and firm medullary substance ; the capsule of the kidney is continued over it, and is thickened. Where the tumour has grown, the substance of the kidney appears to have been absorbed ; so that the tumour is invested externally by the capsule of the kidney, and internally by the thickened membranes of the calyces, upon which it has pressed, and which separate it from the remains of the glandular substance.

From the Museum of George Langstaff, Esq.

3588. A portion of a left kidney of a child converted into a large lobulated medullary tumour.

From a boy, aged 5, of healthy parents and without history of cancer in the family. He had always been ailing, but decidedly ill for only twelve months. He died in the Children's Hospital in Ormond Street, where he had been an inmate for four months. On post-mortem examination the abdomen was found to be almost occupied by the left kidney, which compressed and displaced the other viscera. The right kidney was healthy and of natural size. No disease was found in the other abdominal viscera, except one nodule of cancer, about the size of a pea, on the under surface of the liver. Both lungs were converted into masses of cancer, except a portion of the lower lobe of the left lung, where some healthy tissue remained.

3589. Section of a kidney, at one end of which there is a round mass of soft and spongy substance, upwards of three inches in diameter. The mass is intersected by fibrous radiating bands, which enclose spaces containing either minutely lobulated growths somewhat resembling the proliferous growths of cystic tumours of the breast, or a semi-fluid, gelatinous material. The adjacent part of the kidney appears healthy in texture, but reduced in size ; and the pelvis and its branches are dilated.

Microscopically examined in 1885, the tumour showed the characters of cancer. Large nucleated cells were grouped in rounded or elongated spaces, often of large size. The sections were intersected by broad bands of fibrous tissue containing the remains of tubuli uriniferi.

From the same patient as the bladder, No. 3691.

Presented by Dr. Willis.

3590. A right kidney, occupied in great part by a large cancerous tumour. The tumour contains much pigment, and thus looks not unlike some disease of the suprarenal capsule. A great part of the kidney is now destroyed by the tumour, though the pelvis and adjacent parts look healthy.

From a child, aged 3 years. She enjoyed good health for the first six months of her life ; after this she had an abscess under the arm, at eighteen months a severe attack of whooping-cough, and six months before her death scarlatina. Two months before death she complained of pain about the right ilium, and the abdomen increased rapidly in size. She had no constipation.

Presented by Dr. W. E. Fergusson.

3591. A portion of a kidney, much enlarged and the seat of a large tumour which pulsated. This appears to invade the whole organ, still preserving the renal form. Its cut surface is sponge-like or nævoid, and is composed of a close network of fine fibres enclosing spaces of various shapes and sizes which are filled with vascular soft growth and dark-coloured blood-clot. The pelvis is dilated, and masses of cancerous growth project into its cavity.

From a wheel-maker, aged 49. Two years before death he suddenly passed a large quantity of blood in his urine, and bleeding continued more or less till his death. The case is recorded in the 'Transactions of the Pathological Society,' vol. xxiv. p. 149.

Presented by Timothy Holmes, Esq., 1872.

3592. Section of a kidney, of which one half has been destroyed by the growth of a thickly-walled spherical cyst, about three inches in diameter. The cyst contains flakes and irregular masses of a soft, fibrinous-looking substance; and a small, spheroidal, lobulated tumour, composed apparently of medullary substance, is attached to the inner surface of its wall.

The patient had medullary tumours in the liver.

From the Museum of George Langstaff, Esq.

3593. Section of a kidney, in which there are numerous circular, deep black, melanotic deposits, from a quarter of a line to half an inch in diameter. The intervening substance of the kidney is healthy, and it is not altered in size or form. A part of the capsule is reflected; it also is the seat of melanotic deposits.

From the Museum of George Langstaff, Esq.

3594. Sections of a kidney, completely filled and blackened with melanotic deposit. It is not altered in size or form. The blood-vessels on the surface of the capsule are filled with similar black matter.

From the Museum of George Langstaff, Esq.

3595. A section of a lipo-sarcoma which surrounded a right kidney and weighed 50 pounds. The section shows anastomosing bands of white fibrous tissue with yellow rounded masses of fat intervening. Near the centre and at the upper part of the specimen two large rounded and distinctly circumscribed masses of a softer and more uniform substance are cut across; these, in the recent state, were of a dark pink colour and medullary in texture. The upper mass contains some rounded and irregular cyst-like spaces.

Under the microscope the softer nodules consisted of small round cells with a few spindle-cells. The great part of the tumour was made up of white fibrous tissue and much fat.

From a man, aged 37, who had observed a swelling in his abdomen for two years. For the purpose of establishing a diagnosis an exploratory incision was made over the tumour, but it was not removed. Death took place with hæmorrhage from a wounded vein on the surface of the tumour. On post-mortem examination, the tumour was found to occupy the right loin; it projected into the pelvis and pushed the liver upwards to a position just below the clavicle. On the posterior surface and enveloped by the growth was the kidney, which presented no abnormal appearances. There were secondary nodules of sarcoma in the liver, and a mass of infiltrated glands occupied the position of the pancreas.

Presented by Dr. Bertram C. A. Windle, 1884.

3596. A portion of a kidney torn away in an operation and comprising more than one third of one end of the organ. A calyx and papilla seen upon the torn surface afford conclusive evidence that the pelvis was opened; within the calyx is a small mass of fat like the portion of the tumour preserved. The section of the kidney has a normal appearance. Surrounding the surface of the kidney is a tolerably firm, greasy, pale yellowish-white substance, evidently consisting in great part of adipose and fibrous tissues. It is in close contact with, but not adherent to, the capsule of the kidney, except over a portion of the surface about half an inch in length, where its texture is more fibrous; but the capsule could be easily separated from the kidney at this point, leaving the subjacent parenchyma perfectly smooth. The other portion of the tumour preserved, from the opposite side of the patient, was slightly more fibrous in texture, but otherwise similar in its naked-eye characters.

In minute structure, the tumour consisted for the most part of large fat-cells, with bands and larger tracts of loose, finely fibrillar connective tissue containing round nuclei. Around the blood-vessels, which were large and numerous, were masses of closely approximated round, so-called indifferent cells. They evidently took part in the growth of the fibrous tissue, and into this again the fat-cells advanced probably by a fatty degeneration of the fixed connective-tissue corpuscles. The formation of fat was therefore secondary to that of the fibrous tissue.

From a lady, aged 48, who began to suffer from abdominal trouble in 1874, and in 1878 was so large that pregnancy was suspected. In 1884 each side of the abdomen was occupied by a large freely movable tumour. A median incision was made and the tumours were shelled out, one half of the left kidney coming away with that on the left side. The patient recovered rapidly, and the urine was natural in quantity and appearance. The tumours together weighed over 30 lbs. (See Brit. Med. Journal, April 19th, p. 758, 1884.)

Presented by Sir T. Spencer Wells, 1884.

3597. One half of a sarcoma connected with the hilum of a kidney; it measures $7\frac{1}{2}$ inches in its longest diameter, is firm in consistence, of a pale buff colour, and part of its section has a marbled appearance. Applied to the surface of the tumour, at the upper part of the preparation, is a small flattened-out but apparently healthy kidney, the hilum being in contact with the tumour. The capsule of the kidney is continued over the surface of the tumour. The ureter could not be traced.

Microscopically, the tumour was composed of spheroidal finely granular cells with large nuclei; the cells were closely approximated, having in places an indistinct arrangement in small columns. The blood-vessels and capillaries were excessively numerous.

The tumour and the kidney were removed, by a median incision, from a woman aged 28. The tumour was first noticed, six years before the operation, as a mobile swelling in the abdomen. The patient recovered without any complication. (See Trans. Path. Soc. vol. xxxiv. p. 141.)

Presented by J. Knowsley Thornton, Esq., 1883.

Diseases of the Blood-Vessels.

3598. A kidney, the veins of which are filled, even to their small branches, with fibrinous coagula.

The following account of the case is preserved in the transcripts of the Hunterian MSS.:—

"*Abscess.*

"Lady B——p, about a fortnight ago, caught a cold, and was taken with a severe fever; had violent pains in her two hips. At last a swelling was observed on the left hip, just upon the large trochanter; this suppurated, and a fluctuation was plainly felt. It was opened near the most depending part by a small opening in comparison to the size of the abscess. In abour two months this healed up to a small orifice; and the pulse, which was at first about a hundred and thirty in the minute, was reduced to between eighty and ninety. It was thought advisable to dilate it the whole length of the abscess, because it had healed partially and broke out again; this increased the pulse to the former standard, which was done when all parts concerned seemed sound. The whole surface of the wound and abscess looked well, granulated, and became less: the pulse was reduced again, but not so very low as before, never below ninety; but hovered about a hundred, sometimes more, sometimes less.

"Two months after this second opening, a hard frost set in, with a great fall of snow; an inflammation came upon the edges of the wound, which spread all over the wound and abscess, attended by a low, quick pulse, which much alarmed me. This became very foul, covered with a large greyish slough; the pulse rose and increased to one hundred and twenty-eight. In a few days the abscess part began to clear, which extended to the lips of the wound, but the lips themselves never threw off their sloughs; This circumstance was a strong proof to me that the bone was sound, as also every other part that had originally any connection with the abscess, which was an agreeable circumstance, as the cure in some measure depended on the health of those parts.

"The sore began to slough again, but more slowly than at first; then for some days it seemed perfectly at a stand. The pulse fluctuated between one hundred and one hundred and thirty, generally slower at night than in the morning, through the whole of the disease. She gradually became [worse?], though not remarkably so, till within three days of her death, when a mild thaw had set in, and was violently attacked with a pain in her right side, and then began visibly to sink, which was more visible in her sensibility than pulse. Some days before she died, the stomach became very irritable, so much as hardly to retain either nourishment or medicine of any sort, except opiates, and the last of that kind she kept down with great difficulty."—*See also Hunterian MS. Cases in Surgery*, p. 18.

"*Dissection of Lady Beauchamp.*

"On opening the body the brain was found sound; the heart and thoracic viscera were to all appearance sound. There was some bloody water in the thorax, which could not have been there long, as there was no thoracic complaint, excepting the pain in the right side three days before death.

"All the abdominal viscera sound, excepting the right kidney (which lay lower than common); this viscus larger than natural, much harder or solider, and of a dark red. Upon its surface lay some extravasated blood, which must have been recent from its appearance, and which might have given rise to the pain in the side before mentioned. On slitting open the inferior vena cava we found a ragged coagulum of blood, sticking and almost shutting up the orifice of the right emulgent vein. On slitting up that vein we found it almost choked up with coagulated blood through its whole length, and in the ramifications as far as we could trace them. This coagulum was strongest and densest closer to the coats of the vein, in its centre spongy and cellular. It would appear that this disease was in all the ramifications of the kidney, as it was loaded with blood, which did not ooze out when cut into. The pelvis was almost obliterated by the pressure of the kidney on the sides.

"All the parts surrounding the abscess were sound.

"The granulations upon the great trochanter had a tendency to ossify, as most granulations have when near the bone, as to receive the ossifying inflammation from that bone."—*Hunterian MS. Dissections of Morbid Bodies*, No. 159, p. 262.

Hunterian.

3599. A section of a kidney, showing a yellowish depressed area on its surface due to wasting of the cortex consequent on embolism of a branch of the renal artery. On other parts of the surface are smaller cicatrices, but the remainder of the kidney is healthy.

From a man, aged 20, ailing from childhood, and who had had rheumatic fever some years before. He had mitral stenosis with extreme hypertrophy of the right side of the heart.

Presented by Dr. Goodhart, 1873.

3600. A kidney, of which the ureter, pelvis, infundibula, and calyces were distended with firmly coagulated blood. Both kidneys were in the same condition. Ecchymoses of small size were seen in the submucous tissue of the ureters and infundibula, but no laceration of the super-imposed membrane could anywhere be discovered. Well-formed red corpuscles were found in the extravasated blood.

From a man, aged 19, who died of purpura. Blood was passed in great quantities from the rectum, urethra, and the mouth, and, on post-mortem examination, blood was found extravasated into almost every organ of the body. The patient was thought to

be suffering from scarlatina by the medical man, but he had no sore throat or characteristic tongue.—Path. Soc. Trans. vol. xiv. p. 180.

Presented by Dr. Murchison, 1862.

3601. The bladder, from the same patient. It contained a large coagulum, and in the submucous tissue were numerous extravasations, from the size of a pin's head up to that of a sixpence, some of them considerably elevated above the surface. One of the largest of these is still well marked on the right side of the organ.

Presented by Dr. Murchison, 1862.

Changes in the Kidneys and Ureters secondary to Obstruction of the Urinary Passages by Strictures, Calculi, &c.

3602. Part of an ureter, which, in consequence of stricture of the urethra, is dilated to nearly an inch in diameter. Its walls are as thick as those of a healthy ureter, and are healthy in their texture. *Hunterian.*

3603. The pelvis of one of the kidneys, and part of the ureter, of the patient whose bladder and prostate gland are preserved in No. 4338. The pelvis is much dilated; the ureter is less so, but, about an inch from its commencement, makes two abrupt turns. Thus, three portions of it lie side by side, and they are closely united; a condition by which the passage of urine from the pelvis must have been greatly obstructed. *Hunterian.*

3604. Portion of a kidney, with the ureter. The ureter is dilated, and, about three inches from its commencement, contracts, apparently with a circular thickening of its walls. Above the contraction it is somewhat sacculated, with prominent membranous folds projecting from its walls.

From the Museum of Sir A. P. Cooper.

3605. Two kidneys, with their pelves and ureters, and the urinary bladder, injected with wax and dried. The pelves and ureters are greatly dilated, and the kidneys appear sacculated, but are not enlarged. *Hunterian.*

3606. A kidney, with the pelvis and calyces greatly dilated, and their lining membrane thickened and covered with flocculent lymph. The cortical substance is fissured from cicatrices in various parts of its surface, and it is considerably swollen, and in some parts destroyed by large abscesses. The ureter is much dilated and thickened.

From an old man admitted to St. Bartholomew's Hospital in a dying state with stone in the bladder. He was so ill that it was deemed unadvisable to perform any operation. (The bladder is No. 3710.)

Presented by Thomas Wormald, Esq., 1865.

3607. Section of a kidney, with part of the ureter. The coats of the ureter are thickened, and its mucous membrane is granulated. About an inch from the pelvis the ureter makes a very abrupt turn, and one of its walls is folded, almost like a valve stretching across its canal and hindering the passage of fluid through it. *Hunterian.*

Effect of Renal Calculi.

3608. A kidney, with the pelvis and its branches dilated, and some small calculi adhering to the papillæ as if imbedded in their substance. *Hunterian.*

3609. The kidney of a dog, with numerous small calculi in the pelvis and calyces. *Hunterian.*

3610. A kidney, the pelvis of which was nearly filled with the numerous small white calculi and particles which now lie at the bottom of the bottle. The lining membrane of the pelvis is thickened and flocculent; the surface of the kidney is irregularly granulated. *Hunterian.*

3611. "The left kidney of a child, who died at St. George's Hospital, where a stricture was suspected. The pelvis and infundibula are enlarged and lined by a layer of coagulable lymph. Calculi are lodged in the infundibula." (*Hunterian MS. Catalogue.*)

3612. "The right kidney of the same child, where the infundibula are also enlarged and ulcerated, so as to communicate with the cavity of the abdomen." (*Hunterian MS. Catalogue.*) In both kidneys, together with the enlargement of the pelvis and infundibula, the glandular substance is reduced in many places to a line in thickness. At the upper end of the right kidney it was reduced to the fourth of a line, and, after being somewhat distended, appears to have been ruptured or partially ulcerated and then torn. *Hunterian.*

3613. Portion of a kidney, with three large calculi filling dilated and ulcerated calyces. *Hunterian.*

3614. Section of the kidney of a girl 4 years old, who died after having been cut for the stone (her diseased bladder is in No. 3731). The pelvis contains a large calculus, a process from which passes into and exactly fits one of the dilated calyces. The substance of the kidney is atrophied.

Hunterian.

3615. A kidney, the blood-vessels of which are injected. The pelvis and calyces are dilated, and three of the latter are obstructed by calculi.

The patient had signs of disease of the kidney for many years, and often passed bloody urine. She died with diseased liver and dropsy. The pelvis of this kidney was full of coagulated blood.

From the Museum of George Langstaff, Esq.

3616. A similar specimen, except in that the blood-vessels are not injected, and the calculi are larger.

Presented by Sir William Blizard.

3617. A kidney, of which the pelvis and some of its branches have been greatly dilated. Two large calculi are contained in them. The substance of the kidney appears granular, and much of it has been removed at the part where the calyces are chiefly dilated.

From a patient who died with a large medullary tumour of the bladder.

From the Museum of R. B. Walker, Esq.

3618. A kidney, the pelvis of which is nearly filled by a calculus. The calyces are dilated, and the substance of the kidney is so atrophied that some of the dilated calyces nearly reach its surface. Its surface is granulated, and in some situations seamed and drawn in, as if cicatrized after ulceration or loss of substance. The blood-vessels have been injected. The pelvis was surrounded with a large quantity of fat, which has been dissected from one side of it.

From a lady of advanced age, who died of rupture of the heart, and who gave no other sign of suffering from disease in the kidney than by complaining of lumbago. The specimen is engraved in Mr. Crosse's 'Treatise on the Urinary Calculus,' pl. iii. fig. 3.

Presented by J. G. Crosse, Esq.

3619. Section of a kidney, the pelvis of which is filled by a large branched calculus. The calyces are all dilated, and were full of small calculi. The whole organ has its natural size, and its glandular substance appears healthy.

From a child who long suffered with discharges of turbid. grumous urine. For six weeks before her death she improved under the use of alkalies and Uva Ursi. Two days before death she became slightly feverish, and died unexpectedly in a fainting fit.

From the Museum of Sir A. P. Cooper.

3620. The kidney of a lad who died at the London Hospital. The pelvis, its branches, and the commencement of the ureter are much dilated, and they are all nearly filled by two large calculi, which have grown in the branched form of the parts containing them. The substance of the kidney

is in several places almost wholly removed, and in all parts much atrophied. *Hunterian.*

3621. Section of a kidney, in which the pelvis and all its branches are filled by large calculi. The kidney, like nearly all the preceding, is atrophied.

3622. A similar specimen, with yet larger calculi. The kidney is reduced in size and indurated ; and much of its proper substance appears replaced by a tough white tissue like that of cicatrix.

3623. A kidney, in which several dilated calyces are filled by large calculi. Their lining membrane in contact with the calculi is rough and ulcerated. The adjacent substance of the kidney is wasted, and is nearly all consolidated into a dense fibrous tissue, together with the fibrous capsule and the adipose tissue around the pelvis.

Presented by Sir William Blizard.

3624. Section of a kidney, nearly filled by one large branching calculus, around which the pelvis and calyces are dilated, and the glandular substance is atrophied and indurated.

Presented by Sir William Blizard.

3625. A kidney, of which the pelvis and its branches are filled by an oval calculus, with a finely granulated surface, measuring three inches in its larger and two in its shorter diameter. The greater part of the substance of the kidney is removed, and what remains of it appears disorganized. The opposite kidney, the ureters, and the bladder were healthy. *Presented by Sir William Blizard.*

3626. A kidney, the pelvis of which is dilated into a sac three inches long, and two inches in diameter, by a calculus which was lodged within it. All the divisions of the pelvis

are dilated, and many of the urine-tubes are full of calculous matter. Some of the blood-vessels have been injected with a white fluid. *Presented by Sir William Blizard.*

3627. A kidney, of which the ureter, near the pelvis, is completely obstructed by a large calculus exactly adapted to its form. The pelvis and its branches are thickened and dilated, and a calculus similar to that in the ureter is lodged in one of the calyces. The substance of the kidney is atrophied. *Hunterian.*

3628. The lower part of a bladder, with the prostate, ureters, and adjacent parts. All the coats of the bladder are thickened and indurated. The prostate gland is enlarged to nearly twice its natural size, and the third lobe is prominent. The right ureter is dilated near its termination in the bladder.

In the dilated portion of the ureter a calculus was fixed, which was distinctly felt with a sound. Lithotomy had been determined on, but the patient, who had long suffered from signs of stone, died before the operation could be performed.

3629. Part of a bladder and right ureter. The latter is dilated, and its coats are thickened; and it has lodged within it, near its vesical termination, a calculus of an elongated oval form, about an inch and a half in length. The coats of the bladder are thickened and slightly sacculated.

Presented by Sir Stephen L. Hammick.

3630. The kidneys, ureters, bladder, uterus, and adjacent parts of a small Terrier bitch. In the bladder are two large and two small calculi. A very small calculus is lodged in the lower end of the left ureter, obstructing the passage. The ureter is dilated, and also the pelvis of the kidney, so that the kidney has the appearance of a simple globular sac, the walls of which are thickened and shreddy, all trace of the glandular structure having disappeared. The spleen and left ovary are adherent to it.

Presented by Philip Wright, 1869.

3631. A kidney, in which the pelvis and all its branches are dilated into large pouches, over which the glandular substance is spread out and atrophied. The dilated pelvis and many of the calyces are full of large calculi.

Presented by Sir William Blizard.

3632. A kidney, similarly, but more, and more irregularly, dilated. The pelvis and calyces were full of purulent fluid and numerous small particles of dark calculous matter. Their lining membrane is thickened and granular. The ureter is healthy. *Presented by Sir William Blizard.*

3633. A kidney containing two large irregular calculi lodged in its pelvis and adjoining calyces. The calyces are greatly dilated, and the secreting structure atrophied. The other kidney was in a similar condition.

From a woman aged 31, who died after an illness of two months' duration. The only urgent symptoms were sickness, with rapidly decreasing strength. There was little failure of nutrition.

Presented by John Groves, Esq., 1864.

3634. A kidney, of which the blood-vessels are minutely injected. The pelvis is nearly filled by a calculus; and both it and the calyces are dilated into large sacs and unnaturally vascular. The whole kidney is considerably increased in size by dilatation; and its glandular substance is reduced to a very thin layer.

From a woman 63 years old, who suffered for nearly four years with signs of nephritis, which, during the last six months of her life, became very severe. Pus and blood were discharged with the urine, and, at the last, ascites and chronic peritonitis ensued, for which she was twice tapped.

The pelvis and its branches in this kidney contained a pint of pus. The left kidney was similarly diseased, but in a less degree. A further account of the case is given in the 'Catalogue of the Anatomical Museum of George Langstaff,' p. 319.

From the Museum of George Langstaff, Esq.

3635. A kidney, of which the pelvis and the beginning of the

ureter are filled by a calculus. As in the preceding specimen, all the branches of the pelvis are exceedingly dilated; so that the kidney has acquired the form of a large multilocular sac, surrounded by a layer of glandular substance varying from half a line to three lines in thickness. The lining membrane of the sac is healthy in its texture, and thicker than that of the calyces in their natural state.

Hunterian.

3636. A similar specimen; but the kidney is distended to a much larger size, measuring eight inches in length, and four and a half in breadth. The lining membrane of the enlarged calyces, pelvis, and ureter is thickened, coarsely granulated, and covered with lymph. The capsule of the kidney and the adjacent tissues are thickened, hardened, and consolidated. *Hunterian.*

3637. The remainder of the ureter, and a portion of the bladder, from the same patient as the kidney last described. The ureter is dilated; its coats are a line or more in thickness, and its interior is irregularly ulcerated. The bladder is inverted, and presents several circular sharp-bordered ulcers in an otherwise healthy mucous membrane. *Hunterian.*

3638. A similar specimen; a kidney dilated into a large multilocular sac, in consequence of the obstruction of the first portion of the ureter by a calculus. The sac is about eight inches in length, and five in breadth; scarcely any glandular substance is discernible. The ureter below the obstructed part is healthy. *Presented by Sir Everard Home.*

3638 A. A kidney much enlarged, with dilatation of the pelvis and calyces and expansion of its substance from obstruction of the commencement of the ureter by a calculus. The pelvis contained pus.

It was removed from a lad, who recovered perfectly from the operation.

Presented by Lawson Tait, Esq., 1883.

3638 B. A kidney extremely dilated, and with its glandular substance entirely wasted. The ureter at the outlet of the pelvis is blocked by a calculus nearly half an inch in diameter. A smaller calculus, which was found in the ureter lower down, is suspended by the side of the specimen.

The kidney was removed by operation from a woman, aged 58, who had been ill for several years, and had suffered constant pain. The urine contained a large quantity of pus. A lateral incision in the abdominal wall was employed; the kidney was very adherent, and the ureter was undistinguishable from matting of tissues. The patient died of exhaustion on the fourth day after the operation.

Presented by Dr. G. G. Bantock, 1884.

3638 C. A much dilated and enlarged left kidney, containing many calculi, which was removed by operation. It has been laid open from its convex surface; it appears converted into a mass of fibrous tissue containing numerous loculi, of which those near the surface are large and irregular. Many of them contain one or several irregular calculi of uric acid: a calculus was also found occluding the ureter. The long diameter of the kidney measures six inches.

The kidney was removed from a man by an incision along the left linea semilunaris. Probably owing to the calculus in the ureter acting as a ball-valve, the patient's urine had only occasionally contained pus and albumen.

On post-mortem examination the right kidney was found to be hypertrophied, weighing $7\frac{1}{2}$ oz.; its surface was granular and covered with small cysts; the cortical substance was diminished, pale, and unnaturally firm.

Presented by Dr. Thomas Wright, 1884.

Hydatids.

3639. Sections of a kidney, probably from a Sheep, the interior of which is full of acephalocyst hydatids, varying from a line to half an inch in diameter, and some with thin and pellucid, others with thicker and opaque, membranes. In consequence of their growth, the glandular substance of the

kidney is reduced to a layer from half a line to a line in thickness. Neither the form nor the size of the kidney appears altered. *Hunterian.*

3640. A similar specimen ; a section of a Sheep's kidney full of large acephalocyst hydatids. *Hunterian.*

3641. The other section of the same kidney. *Hunterian.*

3642. The kidney of a Sheep, in which is imbedded a hard globular mass, an inch and a half in diameter, and composed of concentric layers of alternately yellowish and white substances. It probably consists of the débris of acephalocyst hydatids, which died and burst, and of which the membranes were then rolled up and compressed and became the seat of calcareous deposits. The structure of the kidney appears healthy. *Hunterian.*

3643. Numerous acephalocyst hydatids, broken and rolled-up, which were discharged with the urine, but of which the original seat is unknown.

"J. Taylor, Esq., aged 32, and of a delicate constitution, inclinable to be hectic, viz. a little cough, with a quick pulse, but at times tolerably well, fell from his horse in hunting on the 31st of January, 1781, and hurt himself considerably in the right flank: but, though the pain was extremely violent, no external contusion appeared.

"He vomited very much, and passed bloody urine after the accident; he was confined to his bed a week, and continued to discharge urine with a bloody tinge for at least two months, with some little variety in the appearance, as the fluid was sometimes simply tinctured with red, and at other times loaded with bloody grume, particularly after the exercise of riding, which he still used.

"Ever since he has had occasional sickness at stomach. After several remedies were given, and attention paid to him, he seemed to get the better of all the local symptoms, but remained in a very debilitated state.

"A hectic soon after manifested itself, and continued to afflict him more or less till the 30th of November, 1783, when he was attacked with rigour and fever, with considerable pain in his right side. These symptoms were followed by an evident tumour in

the right hypochondrium, which was very hard and circumscribed, and for the discussion of which cicuta and mercurial preparations were exhibited.

"He came to London in 1785, and put himself under the care of Dr. Lettsom and Mr. Sharpe, to whose opinion Mr. Hunter's was soon after joined.

"The tumour then occupied the whole of the left side, as far forwards as the navel, and came as low as the ilium of that side, extending upwards, and there became lost, going under the ribs. A fluctuation was plainly felt in the tumour. Dr. Lettsom prescribed some alterative pills, consisting of small doses of calomel, and an opening draught to be taken occasionally; and Mr. Sharpe applied a soap-cerate plaister to the side affected.

"On the 2nd of February a degree of strangury came on, for which gum arabic and cream of tartar dissolved in Aq. Hord. were prescribed. On the 3rd he was attacked with fever, shivering, and a great increase of the strangury.

"As it was conceived that probably the matter which had come away at times with the urine might come from the cyst, there was probably a communication, it was possible the whole might come this way.

"I then wished his strength would allow him to ride, or even to go in a coach, for the case required the same treatment as gravel in the kidneys requires, which is, pretty quick motion, if the patient can bear it, although probably not so violent.

"It is to be observed that he took, through the whole course of the disease, such medicines as were required at the time the symptoms arose: such as gum arabic, dissolved in the common emulsion; saline draughts, when there was fever; opium, both internally and by clysters, when in pain; and opening medicines when costive.

"On the 4th, 5th, 6th, 7th, 8th, and 9th he was much the same. On the 10th, after a slight exertion in laughing, in the forenoon, about three-quarters of a pint of purulent matter, void of fœtor, was discharged through the urethra. The urine was turbid for a day or two after this, and the strangury abated. The remedies were continued as before. On the 12th and 13th he was tolerably well, except a little strangury.

"The tumour had felt far more yielding for some days previous to the discharge, and gave such distinct signs of containing a fluid that an operation was hinted at by Mr. Sharpe; but, as there was no reason to suppose any adhesion or connection between the parietes and the tumour, I was of opinion it had rather be postponed, as being hazardous and uncertain.

"On the 15th he found a body push from his urethra in making water; the strangury being immediately previous very violent. After this the pain ceased altogether. On examining the body, it appeared to be an hydatid.

"On the 16th the strangury was renewed, and at some periods was very violent. On the 18th, in the morning, he was tolerably easy; but about two in the afternoon he had a more violent and

severe attack than any of the former, with numbness in the leg on the side affected, and great increase of pain in attempting to move it. The pain returned in the evening, and three or four more hydatids came away, of about the same size with the former; and the urine had a milky appearance.

"On the 19th he passed some more hydatids, with great previous pain; but after they came away he was much easier, and the urine was in due quantity. The pain was very violent on the 20th. At least a dozen hydatids were discharged this evening.

"On the 21st he found himself very much fatigued and depressed from the pain he had suffered the day before. About half-past two this day, a pint and a half of matter at least was discharged from the urethra, and about thirty hydatids with it, twenty-two of which were rather large. The purulent discharge did not cease as before, but on the succeeding evacuations there was the same appearance, but not in so thick a state as at first, owing perhaps to its being blended with urine. No rigor preceded this discharge, nor was it attended with any febrile symptoms, but he found himself very faint from it.

"On the 23rd matter still continued discharging, sometimes in a state of unmixed pus, with very little urine blended with it, and after a considerable quantity of the purulent matter had come away to-day the urine was again quite clear. More than twenty hydatids were passed to-day and with very little pain. He had a slight degree of fever, for which he took a saline draught. The discharge continued on the morning of the 24th, and the urine was mixed with pus; but during the night it became quite clear again, and no hydatids were discharged: he slept well with his anodyne.

"On the 25th the urine was clear in the morning, and the discharge had ceased. He sat up several hours to-day. In the afternoon the urine was again charged with pus, but no hydatids came away. At night the urine became quite clear again; but the next morning, soon after getting up, several very large hydatids were discharged, with some previous pain, and about a pint and a half of pus.

"On measuring the belly it was found to be only thirty inches and a half in its extreme circumference, although it had measured when most distended thirty-four and a half inches. The urine continued turbid all day, and of a purulent colour; and in the evening another large quantity of matter was discharged, but without any hydatid or pain. The patient was much better, and found himself lighter (as he expressed it) and stronger: his appetite increased, and he could move his body or legs in any direction, which he could not effect before, for on stooping on any occasion, or on lifting his foot on a chair to buckle his shoe, he suffered great pain. The discharge continued purulent all night, and on measuring the next morning (the 27th), before he had gone to stool, there was a decrease of half an inch. The same kind of discharge continued all day, and the patient felt himself improving very rapidly in his strength: he was able to walk about without pain,

and to-day, for the first time, had not the smallest irritation in his urinary organs. He slept well last night, with only a quarter of a grain of opium, and his body was sufficiently soluble without a laxative.

"On the 28th and 29th he still continued to pass purulent urine. March 1st and 2nd he proceeded as before, and went out in a coach on the 1st, the motion of which he bore very well. He had clear urine in the morning, but towards the afternoon discharged two or three hydatids, and a great quantity of pus afterwards with the urine, which continued purulent during the succeeding day, but in the night became clear and in its usual quantity.

"The urine remained clear the whole day of the 3rd, and he complained of pain, which increased at night. The night was restless, and before morning he discharged three or four hydatids followed by pus. His urine continued turbid during the 4th, and his pain much relieved. On measuring to-day before he had an evacuation by stool he wanted six inches and a half of a yard in circumference. He went out in a coach, and walked some part of the way; which exercise he bore well. At night some little pain came on, and two or three hydatids were discharged, followed by purulent urine, which continued during the night; but on the morning of the 5th was clear again, except depositing a sediment on standing.

"Dr. Lettsom ordered him the bark twice a day in cold infusion; he was not much weakened by his discharge, and his appetite was improved. His urine got more pale and clear towards evening and on the 6th deposited very little sediment, and during the night was passed in very large quantities without any deposition.

"On the 7th, after moving about a little in his apartment, he was seized with pain, and discharged six or seven hydatids, with at least a half a pint of pure pus: the urine continued turbid during the day, but got clear towards evening, and remained so all night.

"On the morning of the 9th, after a severe fit of pain, fourteen or fifteen hydatids of various sizes were discharged; these were followed by very thick pus. On measuring him this morning he wanted nearly seven inches of a yard; although, when he came to town, his extreme circumference was thirty-two and a half inches. There was no tumour visible externally, and the integuments were quite loose and flabby on the left side; but, on examining the part with the hand, there still appeared to be an enlargement.

"His bark produced nausea, and the Doctor ordered him to take it but once a day. No alteration took place till the 12th, in the morning, when he discharged about a pint of pus soon after rising, preceded by ten or twelve hydatids, and without much pain; and he walked afterwards full three miles, without inconvenience or fatigue.

"The urine became transparent again in the evening, but he was rather uneasy, and continued so during the greater part of

the 13th, when he felt a pain similar to that which he had suffered previous to the first discharge from the tumour. On the 14th he was well in every respect; his urine was quite clear.

"He was very easy on the morning of the 15th, but was seized with violent pain towards the afternoon; unlike the pain which he had lately experienced, but similar to that which he had been subject to prior to the first discharge of hydatids.

"He suffered much pain on the 21st, and the tumour was now considerably enlarged, seeming to have nearly attained its original great size. Febrile symptoms came on on the 22nd. His side was very tumid and tense, with great pain in the loins, towards which part the swelling extended more than it had done before. He remained under the same degree of fever and pain during the 23rd, and was particularly restless during the night.

"Between eight and nine on the 25th he passed a much larger hydatid than any that had yet come away, with about a pint and a half of pus, and several smaller hydatids, and one more as large as the first and many fragments. Two or three specks of blood appeared among the pus. He was now much easier. His fever continued in a slight degree during the next day, but he was free of pain, and his side seemed more flaccid than at any former period.

"Little or no variation was observable till the 29th; more or less discharge had taken place every day, and his febrile symptoms were moderate. On this day the pain increased considerably and several hydatids were passed, with about a quarter of a pint of pus. His fever and uneasiness continued to diminish.

"On the 4th of April he rode ten miles on a rough-trotting horse, and came home with great pain in his loins; he went on, however, well till the 21st, when he again felt uneasiness in his side; and on the 22nd fever supervened, which lasted all night, but went off towards morning.

"He proceeded with slight febrile attacks till the 8th of May, when he had a discharge amounting to nearly two quarts at once; with several hydatids much larger than before, but of a more broken texture, and less opaque than the former; they were also of a blacker hue.

"This evacuation was attended with much less pain than any of the preceding, and he was perfectly easy immediately after, and not at all faint. His urine continued turbid till the 23rd: the side remained very flaccid and easy; his appetite was good, and his rest tolerable. He this day went out of town to Kensington. Some broken portions of hydatids came away on the 26th; his urine was turbid, but his side not enlarged.

"On the 3rd of June, in the evening, he was attacked with strangury, which had been preceded by much uneasiness in the bowels, like the pains of colic, and several pellicles came away next morning; they seemed from their size to be the remains of some very large hydatids, were of a blackish hue and of a soft gelatinous texture; they came away with much more facility than any of the preceding, and were followed by little or no matter.

Two or three small perfect hydatids were at the same time discharged.

"On the 5th the urine was quite clear, which it had not been since the last considerable discharge; and he was quite free from pain. His health and strength were much restored, and he felt no inconvenience but a pain in the loins on walking far. On the 7th of June he was attacked with more violent pain and strangury than he had ever before suffered for the same space of time, and was particularly afflicted with colicky pains in the bowels. He passed several more large fragments of hydatids this day, and a small quantity of matter. The side previous to this discharge was somewhat enlarged; but was this day reduced to an equality with the other.

"June 29th, his health was considerably mended, and he could bear exercise without fatigue. His left side felt now more empty than before; his urine continued of that purulent turbidness which it had put on for some time past, and several whole hydatids and fragments of others had been discharged within these few days, but all of them of a gelatinous consistence, and some black, except one, which was large and semitransparent, and which bore the same appearance as when they came away in their more perfect state.

"July 11th: he had been troubled for about ten days with a pain under his short ribs, in the right side, confined to the space of half-a-crown, which produced no uneasiness in inspiration, but was very troublesome when he pulled his body erect from a stooping posture, or when he put on the boot on the right leg. He was this day seized with a violent pain in the belly, in the umbilical region, extending across that part just as colic does. He mentioned that he suffered a similar pain before the last discharge of hydatids but one; he passed several hydatids, about six in number, some of which were large, after which the pain subsided.

"On the 13th he complained that the hydatids pressed very much in his bladder, and that he could not get rid of them; he had been kept awake all night with pain, but suffered no strangury nor was the pain very excessive. In a few hours he passed an hydatid of a very large size, and much rent, of a firm texture and whitish colour. He was cupped the day before yesterday for the pain in his side, which still continued troublesome, at which he was much alarmed lest it should be the same disease beginning in the right kidney. On the 15th he still complained of some pain, which was particularly aggravated by motion or pressure, but no enlargement could be felt. The pain was most severe when the lowest false rib was pressed on. He this day went into Suffolk for the summer, in good health in other respects, and return of strength and appetite.

"From the above symptoms and appearances we may draw the following conclusions:—

"First, that the bag is a congeries of hydatids: whether of the kidney or near it cannot now be determined. That it immediately communicated with either the pelvis of the kidney, urethra,

or bladder. That probably this communication was small, and therefore at times stopped, probably by an hydatid; and while this was the case he made clear water, and when the communication was opened, which was probably by an hydatid passing, then a gush of matter with hydatids followed. The discharge of the matter and hydatids stopped, and nothing but urine came away.

"This continued for some days, which we imputed to the passage being stopped by a hydatid, because we could not suppose the bag would not now form any matter; therefore we were waiting for another discharge of matter, which took place and lasted for some days in the same manner as before. The evacuation of matter and hydatids stopped a second time, and no inconvenience attended for some time; and when it was become pretty full, I observed that the bag was not nearly so large as formerly, so that it had contracted considerably in the time of the evacuation of the water, &c.

"It continued filling for several weeks; he became uneasy, slight fever, &c. I tried to squeeze the swelling, to see if I could squeeze the hydatid through the passage, but did not succeed. He rode gently on horseback, with the same view; he became rather easier. Fever, &c., had abated; and the bag became as large as at first, but at last it burst through, and about a quart of matter, with a vast number of hydatids, came away, many larger than any of the former, and he then became easier in body and mind.

"A repetition of these stoppages took place perhaps every fortnight or three weeks, but never lasted so long as to give much uneasiness, or produce a fulness in that side; fewer came away each time, and they were of a larger size; the smaller having more readily found a passage.

"Some of the largest skins or coats appeared to have been as large as goose's eggs; one of them had a neck like a flask, but was so broken as not to allow me to ascertain the mouth of it.

"He at last, as it were, became acquainted with the disease: when a stoppage came on, and when an opening of the communication betwixt the bag and the urinary canal took place, he seemed to know it by a peculiar sensation. When on their passage down the ureter to the bladder, he was also sensible of it; and when they had got there, he was then easy.

"As I had formerly squeezed the tumour, to see if I could squeeze the hydatids into the urinary passages, he often repeated the same experiment, and conceived that he often succeeded; especially when the communication was open, for then he was certain that he squeezed them into the urinary passages.

"One of the largest came away from the bladder; it at first took some time in the urethra, but came away very much torn.

"As he was going into the country, July 16th, I gave him some bougies to pass into the bladder, in case any should in future stick in the passage, so as to make the suppression of urine troublesome or dangerous.

"Towards the last of their coming away, much less matter came than formerly; often the water was pretty clear when they

were passing. This was in the beginning of October, 1784."—*Hunterian MSS.: Cases and Observations*, No. 75.

A shorter account of this case, with sketches of the hydatids, is in a paper by Dr. Lettsom, entitled "History of Two Cases of Hydatides Renales," in the Memoirs of the Medical Society of London, vol. ii. p. 32, London, 1794.

Hunterian.

3644. Portions of earthy, bone-like matter, some of which are imbedded in dried animal substance, having somewhat of the shape of a kidney.

The note sent with the specimen described it as "A kidney become bony; formerly had hydatids; the case published by Dr. Lettsom. The patient had a large stone extracted at St. George's, 1803." The case was probably the second in Dr. Lettsom's paper already referred to. A butcher was for some years subject to pain in the right kidney, descending in the course of the ureter, and ceasing after the discharge of hydatids with the urine. There were considerable intervals between the attacks, in which he appeared quite well: but, as the disease advanced, the attacks became more frequent, and the hydatids larger, till, after about ten years, the discharge of hydatids gradually ceased, and he seemed completely recovered.

Presented by Sir Everard Home.

Peri-nephritic Abscess.

3645. A kidney, surrounded with a sac with walls a quarter of an inch thick, hard, dense, and apparently composed of the capsule and surrounding tissue consolidated by inflammation. The interior of the sac is lined with a layer of false membrane, and in one situation, opposite the hilus, it is adherent to the surface of the kidney. The kidney itself is contracted, granular, and, in part, covered with lymph.

The case appears to have been one of abscess round the kidney.

Hunterian.

Series XXXIX. INJURIES AND DISEASES OF THE URINARY BLADDER.

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3646. A healthy urinary bladder for comparison with specimens following. It is contracted, and the muscular fibres are displayed by the removal of the peritoneal covering and cellular tissue.

From a man who was killed by a blow on the stomach.

Hunterian.

Hypertrophy.

3647. Portion of the fundus of a bladder, the muscular coat of which is half an inch thick, though not contracted. The external fasciculi of muscular fibres are very strongly developed, and are prominent in curved and interlacing ridges. The mucous membrane is closely and deeply corrugated, but healthy in its texture. *Hunterian.*

3648. A bladder, prostate gland, and part of the penis. In consequence of a stricture at the junction of the bulbous and membranous parts of the urethra, the cavity of the bladder is greatly enlarged, and its muscular coat is proportionally hypertrophied. Its internal fasciculi project in strong, flat bands, and form a coarse network beneath the mucous membrane. The band of muscular fibres passing transversely from one ureter to the other, and the fibres extending from it to the prostate, are remarkably thick, broad, and distinct ; slips of paper have been passed beneath its chief fasciculi. The mucous membrane and the tissues around the bladder appear quite healthy. The ureters are dilated and thickened, but their orifices are not enlarged. The prostate gland is laid open from behind, and several small cavities which contained calculi are shown in its interior.

3649. Section of a bladder, with the prostate gland, &c. In consequence of stricture of the urethra, the muscular coat of the bladder is greatly increased in thickness ; and its fasciculi are very prominent beneath the mucous membrane, which itself appears very thin and soft. *Hunterian.*

Dilatation and Rupture.

3650. A urinary bladder from a man with a vertical rupture extending from the apex half way down both the anterior and posterior walls.

The rupture was the result of an injury by which the horizontal ramus of the right pubes was broken ; a portion of that bone was found detached and pointing towards the rupture. Clear urine was passed on the third and fourth days ; and the patient died on the eighth day.

Presented by Walter Rivington, Esq., 1884.

3651. A bladder, which was very much distended with urine. Its muscular coat is thickened, but its fasciculi are wide apart. Many sacculi of mucous membrane (two of which are on the antero-lateral walls) are pushed outwards, and are laid open from the exterior.

The patient was a man 62 years old. He had enlargement of the prostate gland, with increased frequency and slight difficulty of passing urine; but he kept his bed for only a few days before he died.

From the Museum of John Howship, Esq.

3652. The bladder of a woman, which burst near the entrance of the ureter in consequence of neglected retention of urine. The bladder is inverted; the greater part of its mucous membrane is destroyed by superficial ulceration, and appears to have been acutely inflamed. The margins of the rupture are irregular and shreddy, as if sloughing had taken place.

The urine escaped into the peritoneal cavity, and produced peritonitis, which was fatal on the fourth day.

From the Museum of George Langstaff, Esq.

3653. A uterus and bladder, some time after parturition. The uterus has contracted to about six inches in length; a portion of placenta or coagulated blood adheres to the upper and right side of its cavity. The bladder, having been distended by urine during the whole period of parturition, has had its mucous membrane at one part extensively torn. At this part, the submucous tissue is exposed with long sloughing shreds, and in many other situations there are smaller lacerations, which look like superficial ulcers of the mucous membrane. The bladder appears to have contracted but little after its distention, and its walls are not more than a line in thickness.

The patient's death was believed to be due to the retention of urine.

Presented by Sir William Blizard.

Hernia.

3654. Part of the pelvis of a Lion, with a hernia of the fundus of the urinary bladder through the left inguinal canal. The hernia is exposed by the removal of the left wall of the abdomen. *Hunterian.*

3655. A blader, uterus, and vagina. The interior of the bladder is exposed from the front, and that of the vagina from behind. The posterior wall of the neck of the bladder is protruded in a broad, deep pouch into the upper part of the vagina, in which it forms a considerable tumour, between two and three inches in front of the os uteri; the textures of all the parts appear healthy.

From the Museum of Sir A. P. Cooper.

Partial Dilatation or Sacculation.

Of all the Coats.

3656. A bladder, in which a wide and deep pouch is formed by a partial dilatation of all the coats directly behind the prostate gland. The pouch is wider at its communication with the bladder than at any other part; it is directed rather towards the left side; it is such an one as may have been caused by the lodgment of a calculus. The walls of the bladder are thickened and indurated. *Hunterian.*

3657. A bladder, with the prostate gland, part of the penis, &c. The prostate is somewhat enlarged and hardened, and its middle lobe is prominent. Immediately above the middle lobe, a long and projecting curved ridge extends between the ureters, which, in proportion to the size of the bladder, are unnaturally wide apart. This ridge, which is formed by the increase of the transverse band of muscular fibres between the ureters, is the lower boundary of a sac in which all the coats of the bladder are dilated. The muscular coat of the bladder is generally much hypertrophied; its mucous membrane had the appearance of acute inflammation, and this extended for an inch up each ureter; its cavity, except at the dilatation, is very small. One of the ejaculatory

ducts, in which a portion of whalebone is placed, is unusually large. All the tissues around the prostate, vesiculæ seminales, and adjacent parts are thickened and consolidated.

From a man who complained of pain in the bladder, extending to the glans penis and the kidneys, and of frequent desire to make water. The attacks came on at very short intervals, and admitted of little relief from anodynes. The case is further described in Sir E. Home's work "On the Treatment of the Diseases of the Prostate Gland," vol. ii. p. 182; and the preparation is engraved in pl. ix. in the same volume.

Presented by Sir Everard Home.

3658. A bladder, with the prostate gland, part of the penis, &c. Two large and several smaller sacculi are protruded from the posterior wall, and there are some depressions of the mucous membrane between the meshes of the hypertrophied muscular fasciculi. The walls of the largest sacculi are more than a quarter of an inch thick; they have distinct layers of muscular fibres; and the mucous membrane lining them is thickened and granular. Some of these sacculi contained several small calculi. There is a cavity, as if from a small abscess, in the anterior part of the prostate gland; and there is a narrow stricture at the junction of the bulbous and the membranous portions of the urethra.

The specimen is engraved in Sir E. Home's work quoted above, in vol. i. pl. xiii.

Presented by Sir Everard Home.

3659. A bladder, of which a portion of the inferior and left lateral wall is dilated into a sac nearly three inches in diameter. The walls of the sac are about a line and a half in thickness, and appear to be formed of smooth and healthy mucous membrane, a thin layer of muscular tissue, and an external, tough, and indurated fibro-cellular investment; it communicates by a large orifice with the cavity of the bladder. A similar but much smaller sac is protruded from the middle of the posterior wall of the bladder. The muscular coat of the bladder is hypertrophied; its mucous membrane is healthy in texture, but in many places pushed

out in pits between the muscular fibres, its cavity appears to have been generally rather smaller than that of the sac by its side. The prostate gland is slightly enlarged.

3660. A bladder, with the prostate gland and other adjacent parts. The cavity of the bladder is much contracted; its muscular coat is half an inch thick; its mucous membrane thickened and deeply corrugated. At the middle of the posterior wall of the bladder, is a small oval aperture leading into a spheroidal sac nearly four inches in diameter. The walls of this sac are about a line in thickness; it is lined with smooth mucous membrane, which is partially covered with lymph, and is a little ulcerated around the orifice of communication with the bladder; its upper half is covered with peritoneum; and there is an appearance of a layer of muscular fibres in the cut margin of its walls. The prostate gland, and especially its middle lobe, are enlarged. A portion of bougie is placed in a passage, which was forced with a catheter, through the middle lobe of the prostate into the bladder, seventeen days before the patient's death. The upper opening of this passage is just below the aperture between the bladder and the sac.

The patient was a gentleman 66 years old. He had retention of urine, and a catheter was with much difficulty passed into the bladder. His condition was improved for two days, but he gained no power of expelling his urine; and after this time violent spasmodic contractions of the bladder, accompanied by severe pain, frequently recurred, and continued to the time of his death. The case is related at length in Sir E. Home's work "On the Treatment of the Diseases of the Prostate Gland," vol. i. p. 157; and the preparation is figured in the same work, vol. i. pl. vii.

Hunterian.

3661. The urinary organs of a boy two years and a half old. Both the kidneys are dilated, without much enlargement, into cysts, incompletely partitioned; there are scarcely any remains of their glandular substance. The pelvis and ureters, also, are proportionally dilated; the latter are at some parts three quarters of an inch in diameter. The bladder is very large; its muscular coat is hypertrophied

and its internal fasciculi are remarkably prominent. Immediately behind the prostate, both the muscular and mucous coats of the bladder are dilated into a spheroidal sac two inches and a half in diameter. The sac has smooth thin walls ; the muscular fibres in them are thin and wide apart, as if separated by distention ; its cavity opens into that of the bladder through an aperture an inch in diameter, with a sharp, smooth margin ; and it is directed from the bladder downwards and backwards upon the rectum. One of the ureters opens into the pouch just below its orifice of communication with the bladder ; the other opens into the bladder just above the same orifice. The prostate and what remains of the penis are healthy.

The patient had many signs of stone in the bladder, and when sounded, an impression like that of touching a foreign body was often distinctly felt, as often, probably, as the sound struck against the margin of the communication between the bladder and the sac. Mesenteric disease also existed, and of this the child died. No foreign body was found in the bladder, nor is there evidence to show on what the obstruction to the passage of the urine which had existed depended.

The preparation is described and figured in Mr. Liston's 'Practical Surgery,' p. 471.

From the Museum of Robert Liston, Esq.

3662. A bladder, with the prostate gland and part of the rectum. The bladder is of large size, and has the appearance of consisting of two distinct cavities of equal size placed one above the other, and separated by an oblique partition. This partition appears to be composed of the same tissues as the coats of the bladder itself ; it is situated just below the internal orifice of the urethra, and the aperture in its centre, by which the upper communicates with the lower cavity of the bladder, is circular, and not more than half an inch in diameter. The urethra, through which a piece of glass is passed, opens into the lower and front part of the upper cavity of the bladder, passing with a greater than usual obliquity upwards through the prostate ; the ureters open through the middle of the posterior wall of the lower cavity, and, in the preparation, they appear unnaturally far apart,

in consequence of the two cavities having been laid open from behind, to exhibit their interior and the septum between them. The walls of the upper cavity are healthy, and just like those of an ordinary urinary bladder. The mucous membrane of the lower cavity is in every part ulcerated, and beset with calcareous deposits, so that, when first removed, the walls felt hard and rocky. The orifices of the ureters were completely blocked up by some of these deposits, and their canals are dilated. The rectum is pushed unusually far backwards by the inferior cavity of the bladder, which, as already said, is placed almost entirely below and behind the prostate gland. The interpretation of this singular specimen is afforded by what is seen in the preceding one. As in that, a large sac is formed by the lower and posterior part of the bladder, distended or pouched-out towards the rectum. In the preceding specimen the distended part comprises the orifice of only one ureter; in this, both are included in it. The diseased condition of the tissues of the pouch, or lower cavity, are probably explained by the following history of the case :—

The patient was a gentleman 51 years old, who, after he had for fifteen years suffered from what was considered to be a disease of the kidneys, received an injury of the loins in a fall. By this, his former disease, in which he had sometimes passed in his urine substances resembling the membranes of hydatids, was much aggravated. About six weeks before his death, and some months after the fall, from which he had partially recovered, his urine became very offensive, as if it contained putrid animal matter, and was often mixed with small calculi and gravel. With these he had a high degree of fever, painful micturition, severe pain in the loins and in the course of the ureters, nausea, vomiting, &c. The quantity of urine passed during the last month did not exceed more than two or three ounces daily, and in the last week scarcely any was passed, either voluntarily or through the catheter. Little change in these symptoms occurred from day to day, and he gradually sank. Towards the close of life he had general pain and tumefaction of the abdomen.

After death, in addition to the changes displayed in the preparation, there was found an aperture, produced either by rupture or sloughing, in the lower and back part of the bladder, in the line in which it was afterwards more widely laid open. The parts adjacent to this rupture were gangrenous, and urine was extravasated in them. The ureters and the pelves of both kidneys were exceedingly dilated. The right kidney was distended into a large

sac, and the left kidney was large and soft in its texture. There were also signs of general peritonitis.

It is probable that the pouch of the bladder had existed for many years; but that, as in the preceding specimen, the tissues composing it had been sound till, through disease of the kidneys, aggravated or, perhaps, produced by the injury, unhealthy urine used to collect. This, as the pouch always lay below the level of the prostate gland, could not be quickly or completely discharged; and, thus delayed, it probably deposited the calcareous matter, and produced the ulceration of the walls of the pouch. At last, when the pouch could neither empty itself nor be emptied by the catheter, it sloughed and burst.

Presented by Dr. Denmark.

3663. "A bladder, with five cysts formed by calculi, all communicating with the bladder." (*Hunterian MS. Catalogue.*) The cysts or pouches from the bladder are all very like that shown in No. 3661. They are disposed transversely across the lower and posterior part of the bladder, and their arrangement is almost symmetrical. The two outermost are nearly spherical, and between two and three inches in diameter; two in the middle have the same form, and are rather more than an inch in diameter; the fifth, situated on the right side, is smaller than the others, and is not laid open. They open into the bladder through five smooth, round or oval apertures, from half to three quarters of an inch in diameter, which all lie in a row about half an inch above the orifices of the ureters. Their walls are composed of mucous, muscular, and cellular tissue, and are about half as thick as those of the bladder. All the textures, both of the cysts and of the bladder itself, appear quite healthy. The prostate gland has two small cavities in its interior, but is in other respects healthy; neither is there any morbid change in the part of the urethra which is preserved, and which includes the whole of the canal except the anterior half of the spongy portion. The ureters are large, and their coats are thickened. *Hunterian.*

Partial Dilatation of the Mucous Membrane.

3664. Part of the posterior wall of a bladder, in which is a small, wide-mouthed, saccular protrusion, like a hernia or diverti-

culum of the mucous membrane with the cellular coat distended over it. *Hunterian.*

3665. The posterior half of a bladder, with an enlarged prostate gland. There are two saccular protrusions of the mucous membrane, both of which communicate, through comparatively small circular orifices, with the cavity of the bladder. *Hunterian.*

3666. Portion of a bladder, in which are several small sacculi of the mucous membrane. One of them contains a calculus. The lower end of the right ureter is dilated, and obstructed by a calculus. One of the sacculi close by it has been laid open, and is composed of mucous membrane protruded, like a hernial sac, between the muscular fasciculi. *Hunterian.*

3667. A bladder and prostate gland. In consequence of stricture of the urethra, the muscular coat of the bladder is hypertrophied ; and in the posterior wall there are, as in the preceding specimen, many pouches of the mucous membrane, unusually regular in form and size, pushed out between the muscular fasciculi, but not protruded far enough to be prominent externally. The prostate is enlarged. *Hunterian.*

3668. A bladder, with the symphysis pubis and adjacent parts. The vesical orifice of the urethra is obstructed by a prostatic tumour the size of a small chestnut, and the fasciculi of the hypertrophied muscular coat of the bladder stand out in a very prominent network with deep intervening fossæ. There is local thickening of all the walls at the fundus, probably due to extravasation of urine and abscess, and at the base, towards the right side, is a large sacculus, like that of a hernia, opening into the bladder by a small orifice. The lower portion of the right ureter is closely adherent to the side of the sacculus, but opens normally into the bladder ; its walls, and those of the left ureter, are thick and dilated ; blue rods are introduced into their vesical orifices.

From a man whose age is not stated. For four years he was

subject to a constant desire to micturate and slowness in the commencement of the flow of urine. After he had emptied his bladder as much as he could without assistance, a pint more urine could be drawn off by the catheter. He died after attacks of complete retention, the urine ultimately containing pus and abundant casts of the renal tubes. The kidneys were shrunken and atrophied, their pelves much enlarged, with evidence of recent pyelitis.

Presented by Richard Quain, Esq., 1864.

3669. A section, giving a side view, of a bladder, prostate, and urethra. The muscular coat of the bladder is slightly hypertrophied; its mucous membrane is healthy, but a part of it, in the front wall, is protruded in a long narrow-necked pouch between the muscular fasciculi. There is a stricture at the junction of the bulbous and membranous parts of the urethra; the prostatic portion is much dilated; the prostate, vesiculæ seminales, and ureters are healthy.

From the Museum of Robert Liston, Esq.

3670. A bladder, distended and dried. There are two sacculi, probably formed of the mucous membrane protruded through the muscular coat, in the posterior wall; and one similarly formed in the middle of the anterior wall. This last is hemispherical, and measures an inch and two thirds in diameter; its orifice is circular, and an inch in diameter.

Hunterian.

3671. A bladder and prostate gland, with the adjacent parts. A large fragment of a calculus broken in lithotrity is tightly fixed at the junction of the prostatic and membranous portions of the urethra, the mucous membrane around it being ulcerated. The bladder is very small, and its coats are thin. On its posterior wall, close to the orifice of the right ureter, is a sacculus of mucous membrane, communicating with the cavity of the bladder through an aperture only a line in diameter. The sacculus is about an inch in diameter; its walls are thick and tough, and its lining membrane is smooth; it was filled by the three calculi which are loose in the bottle, and which must have been almost entirely formed in it, for its orifice of communication with the bladder is too small to give passage to even the smallest of them.

There is a cavity, like that of an abscess, outside the right lobe of the prostate, but not communicating with the bladder or urethra.

The patient, 23 years old, had incontinence of urine, and other signs of stone in the bladder, from childhood. In June 1842 a stone was crushed in his bladder, and a month afterwards a portion of the calculus became fixed in the urethra. It remained there about ten weeks, and then was removed through an incision into the urethra. A few days afterwards the portion which is preserved became impacted in the same place, and produced extreme pain and difficulty in making water, with signs of inflamed bladder and great disturbance of the general health; the patient in two months died exhausted. Both the kidneys were acutely inflamed, with small collections of pus in their interior.

From the Museum of Robert Walker, Esq.

Inflammation and Ulceration.

3672. Portion of a bladder, of which, in consequence of stricture of the urethra, the muscular coat is thickened. The mucous membrane has been inflamed, and is nearly covered with a layer of closely adherent, tough mucus or lymph, with particles of calcareous matter imbedded in it. Some small calculi are also enclosed in pits of the mucous membrane depressed into the meshes of the muscular fasciculi.

Hunterian.

3673. A bladder and prostate gland. The muscular coat of the bladder is from a quarter to three quarters of an inch thick, and strongly fasciculated. The mucous membrane is thickened and indurated; its internal surface is deeply corrugated; it forms a layer from half a line to three lines in thickness: in some places it appears superficially ulcerated; in others it is covered with thick portions of lymph: it appears, also, to have been very vascular. The prostate gland has been, in great part, destroyed, apparently by irregular suppuration in its interior.

Presented by William Norris, Esq.

3674. A bladder, in which there had been a calculus. Its mucous and muscular coats are thickened and indurated; the former is superficially ulcerated; its internal surface

has a dark granulated aspect, and thin layers of lymph or mucus, mixed with calculous particles, adhere to the surfaces of its ridges. *Hunterian.*

3675. A bladder and part of the urethra. The coats of the bladder are from half to three quarters of an inch thick, and are so indurated and consolidated together and with the surrounding tissues that their several parts cannot be discerned. The mucous membrane is deeply and irregularly ulcerated, and covered with lymph or mucus and calculous matter. The prostate gland is enlarged. The mucous membrane of the urethra is thickened, indurated, and roughened with deposits like those in the bladder.

These changes were the consequence of a stricture of the urethra, of thirty years' standing, which is preserved in No. 4408.

Presented by Sir Everard Home.

3676. A bladder, of which all the coats are perforated by a small ragged ulcer, just above and outside the right ureter. In other parts it appears healthy. *Hunterian.*

Tuberculous Disease.

3677. A bladder, prostate, and part of a penis, together with the left kidney and ureter. In the lower two thirds of the kidney a great part of its substance has been destroyed by ulceration, in consequence of tuberculous disease, which has left several large cavities, lined with thick and coarsely granular false-membrane. The interior of the pelvis and calyces is similarly ulcerated. In the upper third of the kidney are numerous small deposits of tuberculous matter, many of which are softened. The ureter is enlarged, but not elongated: its coats are nearly two lines thick, and its mucous membrane is ulcerated and granular. The mucous membrane of the bladder is extensively ulcerated. Around its lower third is one continuous ulcerated surface, exposing the muscular tissue. Above this are several superficial circular or oval ulcers, from half to three quarters of an inch in diameter, which have only partially coalesced

with the more diffuse ulceration. These ulcers have in some places exposed the muscular coat; in others they have penetrated deeper; in others there appear small portions of tuberculous matter imbedded in their surface. Near these ulcers there are a few others, very small and superficial. That part of the mucous membrane which is not ulcerated, and the muscular coat of the bladder, are healthy. Nearly the whole of the prostate has been destroyed by ulceration, and there are also tuberculous deposits and ulcers in the membranous part of the urethra.

Presented by Richard A. Stafford, Esq.

3677 A. A urinary bladder inverted to show the mucous membrane, which, in parts, is thickly studded with miliary tubercles. They are most thickly aggregated around the orifice, and extend in a broad band along the posterior surface to the apex. The sides of the bladder are comparatively free. There was no ulceration of the mucous membrane. In the recent state the tubercles appeared as grey or pale yellow granulations, slightly raised upon the surface of the pink mucous membrane.

From a man who died with tuberculosis.

Presented by E. Hurry Fenwick, Esq., 1884.

3678. A bladder, with the prostate gland and part of the penis, laid open from behind. The cavity of the bladder is much contracted; its coats are thickened and appear indurated; its internal surface is ulcerated and coarsely granular, but no trace of this condition extends into the urethra. There is an aperture with irregular margins in the anterior wall of the bladder, about two inches above the prostate, which was made for the discharge of urine three months before the patient's death. (See No. 3682.)

From the Museum of Robert Liston, Esq.

3679. Part of a bladder, the walls of which over a great extent have been destroyed by sloughing and ulceration. In some

situations the destruction has extended through the whole thickness of the walls.

From a patient who received an injury of the spinal cord.

Presented by Joseph Swan, Esq.

3680. A male bladder laid open from behind, by a horizontal incision, so as to expose a large abscess-cavity which extends upwards to the fundus and downwards to the base of the trigone. The cavity appears to be internal to the muscular coat. *Presented by John Hilton, Esq.*, 1870.

3681. "A diseased bladder, from which was a bleeding. It has some of the coagulated blood adhering to it, and some of the loose coagula lying at the bottom of the bottle." (*Hunterian MS. Catalogue.*) The mucous membrane is nearly all removed, as if by sloughing, from the lower and posterior part of the bladder; its remains are ragged and flocculent; the exposed subjacent tissues are neither thickened nor indurated. The prostate is somewhat enlarged.

Hunterian.

3682. A layer of membrane, of saccular form, about six inches in its longer and four inches in its shorter diameter, which was discharged from the aperture made into the bladder described in No. 3678. Its form indicates that it lined the whole interior of the bladder, and was cast-off from it in one piece. The outer surface is flocculent, and appears in parts distinctly fibrous; its inner surface is granular and reticulated, like superficially ulcerated mucous membrane. It varies in thickness from a line to one tenth, or a smaller fraction of a line, in different situations, but is moderately tough and, altogether, exactly resembles the mucous membrane of a bladder, separated as a slough in one piece.

The patient was a man 70 years old, in whom, after a fall from a scaffold, retention of urine came on. The catheter was introduced frequently for about three weeks after the injury, and nothing but thick puriform matter was discharged through it. An incision being made into the bladder above the pubes, a large quantity of purulent fluid and this membrane escaped. The

patient lived for three months afterwards, discharging his urine partly through the wound and partly through the urethra. He died exhausted.

From the Museum of Robert Liston, Esq.

3683. A portion of the inner coats of a male bladder removed through a wound in the perineum. It consists of mucous membrane and two layers of muscular fibres. At one part there is a pouch, over which lies a submucous layer of longitudinal fibres and, more superficially, a complete layer of circular fibres. Several ragged holes are seen in the membrane; but it forms one single piece. No trace of the orifice of the ureters can be seen.

From a man aged 30. For ten years after a blow in the perineum he was subject to dysuria and retention of urine; ultimately extensive extravasation took place, and perineal urethrotomy was performed, in May 1870. Twenty-three days later, symptoms of severe cystitis set in, and the urine suddenly ceased to flow by the wound; four days afterwards this specimen was found protruding from the wound, whence it was extracted after considerable traction. He rapidly recovered, and six years later was in excellent health, unable to retain his urine for many hours, but passing it all in a fair-sized stream by the proper channel without any difficulty and without ever requiring the catheter. In August 1883 the patient wrote saying, "My general health is good; I have had no stoppage of the urine or pain in that locality; the holding of my water remains in the same state as heretofore."

Presented by Matthew A. Adams, Esq., 1871.

3684. The mucous membrane of a female bladder, cast-off almost entire and passed by the urethra. Portions of the muscular coat adhere to it externally.

It was found protruding from the urethra of a woman three weeks after a severe instrumental labour immediately followed by symptoms of cystitis. (See Trans. Obstet. Soc. vols. iii. & iv., and Brit. Med. Journal, vol. ii. 1871, p. 8.)

Presented by Sir T. Spencer Wells, 1871.

3685. A mucous membrane exfoliated during lifetime from a bladder.

From a woman aged 28. When four months pregnant she went to bed one evening feeling quite well, but awoke in the

middle of the night unable to pass her water. Next day fœtid urine was drawn-off by the catheter. Retention and constant desire to micturate continued for five days, when she aborted in hospital. Three hours after delivery she passed urine, and incontinence of fœtid urine followed. Nearly a fortnight later she was seized with pain over the pubes, and on the next day the specimen was expelled from the urethra. This caused instant relief, and she soon recovered.

Presented by Dr. Wardell, 1871.

3686. A uterus and bladder, to which is appended a cast appearing as a rolled-up layer. The bladder is contracted and thick; its interior is lined with a thick deposit of calcareous material, immediately below which is the muscular coat. The cast consists of lymph, phosphatic matter, and urates without a trace of muscular fibre or mucous membrane.

From a lady aged 22. Cystitis and over-distention of the bladder came on after her first labour, and ultimately proved fatal. (See Trans. Obstet. Soc. vol. iii. p. 354.)

Presented by Sir T. Spencer Wells, 1871.

3687. The sigmoid flexure of a colon, on a part of the external surface of which are the remains of an abscess between it and the fundus of the urinary bladder.

From a man who died three weeks after fracture of the dorsal portion of the spinal column, and whose case is described by Mr. Swan in 'A Treatise on Diseases and Injuries of the Nerves,' London, 1834, 8vo, p. 220. "There was a complete paralysis of all that part of the body below the fracture." . . . . "He never complained of pain either in the chest or abdomen." . . . . "Much matter had been discharged with the urine." The effects of acute peritonitis were found after death, and the abdomen contained a large quantity of serum mixed with purulent fluid.

Presented by Joseph Swan, Esq.

3688. A bladder, rectum, and prostate gland, with the adjacent parts. Between the bladder and the rectum is the cavity of a large abscess, which opened through an irregular aperture in the fundus of the bladder, and through a long, smoothly-edged aperture in the rectum, just behind and above the prostate gland. Through this latter opening,

also, there was a communication with a small abscess in the substance of the prostate gland. A portion of glass, passed obliquely downwards and backwards, from the urethra through the abscess in the prostate, then across the lower part of the abscess between the rectum and bladder, and then through the opening into the rectum, indicates the relative positions of the parts. Another portion of glass is placed in a short false passage through the wall of part of the prostatic portion of the urethra ; and others are placed in the ureters. The bladder is contracted, its muscular coat is thickened, its mucous membrane superficially ulcerated. The rectum, except for the opening in it, is healthy.

The patient, a man 40 years old, had long a discharge of pus and blood with his urine. A large tumour was felt between the bladder and rectum, and, being cut into from the latter, a quantity of pus was discharged. After this the urine always flowed through the rectum, and a fortnight afterwards the patient died.

Presented by Joseph Swan, Esq.

3689. Part of a pelvis and of the anterior wall of the abdomen, with the bladder and the external organs of generation. After long-continued stricture of the urethra, with numerous fistulæ in the perineum, a passage was spontaneously formed through the upper part of the anterior wall of the bladder and the corresponding part of the wall of the abdomen, through which passage the urine was for a long time discharged. The opening in the abdominal wall has the ordinary appearance of the orifice of a fistulous canal ; it is situated in the middle line, about an inch and a half below the umbilicus. That in the bladder is directly beneath the urachus, which may be seen passing upwards from above the opening to the umbilicus. The whole length of the passage is about an inch ; it is just such an one as usually remains in successful cases of tapping the bladder above the pubes. *Presented by Solomon Sawrey, Esq.*

3690. A bladder, in which is an ulcerated aperture through the middle of the posterior wall. This aperture, which is about

three quarters of an inch in diameter, and is indicated by a portion of quill placed in it, leads downwards, outwards, and backwards into the cavity of a lumbar abscess, which was situated by the side and back of the bladder. Another quill is passed through a long canal in the indurated tissue between the bladder and rectum with which also the abscess communicated. The communication and discharge of pus with the urine existed for the last four months of the patient's life. *From the Museum of John Howship, Esq.*

Morbid Growths.

3691. A vertical, antero-posterior section of a bladder, prostate gland, and other adjacent parts. A small soft semitransparent mucous polypus is attached by a narrow pedicle to the neck of the bladder immediately above the orifice of the urethra, over which it must have been forced whenever urine was expelled. Two small calculi are attached to the summit of the growth, apparently accumulated by incrustation. At the termination of the right ureter, a sac, an inch in diameter, is formed by the protrusion of the mucous membrane of the bladder. The muscular coat of the bladder is hypertrophied, but in other respects both it and the adjacent organs are healthy.

A kidney from the same patient is preserved in No. 3589.

Presented by Dr. Willis.

3692. A lateral section of the bladder and urethra of a young girl. Numerous lobulated, warty, or cauliflower-like, polypous growths, said to be composed of adipose substance, arise from the mucous lining, and nearly fill the cavity of the bladder. The largest of these growths has a base nearly two inches in diameter ; the others have narrow pedicles : two of them have grown from the neck of the bladder into the urethra, and appear to have protruded beyond its external orifice, their ends being ulcerated and flocculent. They all appear to be covered with a continuation of the mucous membrane of the bladder. The bladder is healthy

and of ordinary size; the urethra is stretched, by the growths projecting into it, to nearly an inch in diameter.

The preparation is figured in Dr. Baillie's 'Illustrations,' fasc. vii. pl. 4, fig. 2.

Hunterian.

3693. The bladder and part of the penis of a child. There is a group of several lobulated, polypous growths from the mucous membrane of the neck of the bladder, and of the prostatic part of the urethra. Most of these have narrow pedicles, and an elongated oval form, and are about half an inch in length; but one, situated higher than the rest, is broad and flattened, and nearly an inch in diameter. They all appear to have a firm fibrous texture, and to be covered with mucous membrane like that of the bladder. The muscular coat of the bladder is hypertrophied, but the rest of both the bladder and the urethra is healthy. The ureters are dilated.

The specimen is engraved in Mr. Crosse's Treatise on Calculus already referred to, pl. xx. fig. 2, from which also the following history of the case is taken. The kidneys of the same patient are preserved in Nos. 3522, 3523.

"Master C—— was about a year and a half old, when I was first consulted about him, on account of frequent inclination to pass his water, attended by straining and painful efforts; he had been observed to be thus affected little more than a month, and was already shrunk by severe suffering. Medicine failing to relieve, I at length sounded the bladder, but could feel no stone. Alkalies, opiates, and the warm bath were employed; he always rested a little better on the night the bath was taken; still his symptoms increased in severity, shrinking him rapidly. He was continually wet with urine, which was passed in drops, an effort being made at various intervals, from a few minutes to half an hour. Each attempt to void the urine was accompanied by violent straining and rubbing the end of the penis with the hand. The nights were passed in the same manner as the days, except that during the former the little patient was said to scream more and strain rather less violently; unless laudanum were given him he never got any rest until the morning, when he would occasionally sleep hurriedly for an hour or two. At almost every fit of severe straining and voiding of urine a little fæces was passed, but the rectum never prolapsed. About every two or three weeks I used the sound gently, and twice thought I felt a stone, but not satisfactorily; when I received this impression it was always on passing the sound towards the left side of the bladder. No bleed-

ing ever followed the several soundings performed by me during three months, and the urine was generally voided a little better afterwards, sometimes as much as a table-spoonful at a time. On the 28th of December I again used the sound, which was resisted by something unusual towards the left side of the bladder; for several days after this examination the urine was tinged with blood. The patient had become greatly emaciated by this time, the skin hanging flabbily about him, and the countenance presenting as expressive a picture of suffering and grief as ever I witnessed. Soon afterwards I called into consultation the most experienced surgeon on the spot, who was of opinion that he felt a stone; to me the evidence was not at all clear, and I could only state that I believed I sometimes felt a stone towards the left side of the bladder.....

"The little boy was evidently sinking under his painful disease, and when two years old, it was agreed that an operation should be attempted for his relief; it was accordingly performed on the 10th of January. I introduced the curved staff without difficulty; the anus prolapsed from the violent straining. The same experienced surgeon who had met me before in consultation now gave his assistance, and stated again his opinion that he felt a stone; I stated I could not do so, although I introduced the sound, as well as the staff; but I felt a resisting body at the left side of the bladder, about the termination of the left ureter. I hesitated about proceeding further; after a few minutes' delay, however, I determined to cut into the bladder, and reintroduced the staff for this purpose. I observed there was a great fulness of the perineum; as soon as I cut down to the staff, and opened the membranous part of the urethra, a semi-transparent substance appeared in the wound, resembling the mucus which had been passed from the rectum by the child's straining when first placed upon the table....With the assistance of my left fore-finger, guided by the staff, I carried the scalpel forward fairly to the neck of the bladder, and, on withdrawing the knife, I observed that the wound became instantly filled with a mass resembling, on this sudden view, what one would have expected to see had I opened the peritoneum and allowed the processus vermiformis and several folds of the small intestines to protrude. I pushed back the protruded parts, carrying my left little finger into the bladder, where I could feel no stone, but found the cavity filled with soft tumours, with a firmer substance near the orifice of the left ureter. . . . The same parts then protruded as on the bladder being first opened, and they proved on inspection to be tumours, connected together like a cluster of grapes, some more, some less transparent, resembling in firmness, appearance, and structure the mild polypus nasi: the membrane by which they were connected with each other, and with the inner surface of the bladder, was long and loose enough to allow some of the tumours to hang externally dependent at the wound, and I have no doubt that, by the violent straining efforts of the child when first placed on the table, they had entered the urethra; this is, indeed, proved to have happened by the tumours

appearing in the wound the instant I bared the staff, and it accounts for the fulness of the perineum which I noticed immediately before commencing the operation.

"The nature of these tumours being now understood, and no doubt left of their being mild polypous masses growing from the inner surface of the bladder, it became obvious that the only chance for the patient's recovery must be sought by removing them; I accordingly cut off with scissors all that were within sight. The violent straining efforts which the child had kept up constantly during the operation brought several more tumours, as big as grapes, down sufficiently low to admit of being cut off. Very little bleeding followed the excision of these tumours. Introducing now a forefinger into the bladder, I ascertained that more of the diseased structure remained behind than had been removed; and, as many of the remaining tumours were attached to the bladder by a broad basis, it was deemed advisable to make no further attempts for their removal.

"Notwithstanding a powerful opiate was administered, the child continued to have violent fits of vesical tenesmus after the operation, and could scarcely be prevented from placing himself in his usual posture, resting upon his knees and elbows to give full effect to these exertions. At the end of four hours I placed him again on the table to ascertain whether these efforts had caused any fresh tumours to protrude. The wound was plugged up with a coagulum, which I removed, exposing a tumour as big as a nut, and of a purple colour, from either bruise of it or constriction of its neck; this I easily brought lower down with my fingers, and with scissors cut through the narrow neck by which it was attached to the bladder. I again introduced my forefinger into the bladder, so as to examine the whole of its cavity; no more tumours descended on the finger being withdrawn. Much of the diseased structure remained, so extensively connected with the inner surface of the bladder that I could not undertake to meddle with any part of it. . . . Opium, freely given, quieted, but did not prevent fits of straining from recurring every five or ten minutes; it was only by actual restraint that the child could be prevented from placing himself on his knees and elbows, as he had been accustomed: still nothing more protruded through the wound, which looked well, and gave passage to an ample quantity of urine. The perpetual straining efforts wore out the feeble powers of the little patient in forty-four hours.

"On inspection of the body I found the peritoneum entire, and free from inflammation; the rectum was also uninjured. The ureters were much enlarged and contorted; the pelvis of each kidney was so increased in size, that between one and two ounces of urine could be contained in it. I opened the bladder by a central incision in front, and found its muscular coat much thickened; at its fundus there was a convex prominence covered by peritoneum, which I cut open and found to be a firm mass of thickened cellular substance, situated external to the muscular coat, and containing a small central cavity filled with pus. The

fatal disease occupied the lining membrane of the bladder, which was loosely connected with the muscular coat, and very abundant, so as to fall into folds, also thicker than usual, and having a gelatinous appearance. The cavity of the bladder was still occupied by tumours growing from the lining membrane, and situated at the inferior part near its neck. One large tumour, with a broad basis, was firmer than the rest, and placed near the termination of the left ureter; this must have been the resisting body so generally felt on sounding. Several small detached tumours, from the size of a pea to that of a bean, were loose in the bladder. Towards the neck of the bladder the tumours had a different structure, presenting a wart-like surface; but all the tumours were covered with their proper membrane, continuous with the inner coat of the bladder, which was uninjured, except in three or four spots where I had cut off the tumours with scissors.

"The neck of the bladder and prostatic portion of the urethra were much dilated, and the narrow basis, by which the tumours about the neck of the bladder hung, was sufficiently loose to allow them to descend into the prostatic and membranous parts of the urethra, which, no doubt, happened during life, causing the fulness of perineum, and accounting for the foremost of the tumours prolapsing through the wound as soon as I opened the urethra behind the bulb. The disease was strictly seated in the lining membrane of the bladder, none of which was in a healthy condition, being loose, gelatinous, and thickened, in all parts where polypous tumours did not arise, from the termination of the ureters to the fundus."

Presented by John Greene Crosse, Esq.

3694. A bladder, with the prostate gland and other adjacent parts. The posterior wall of the bladder has been removed to show two vascular, tufted, shreddy, and flocculent growths from the mucous membrane near the orifice of the right ureter, and one of much smaller size from the membrane an inch above the prostate. The larger growths are close together; they are of a spheroidal form, about three quarters of an inch in diameter, and attached by narrow bases; the branching filaments and tufts of which they are chiefly composed, and which when recent were of a bright red colour, float free within the cavity of the bladder. Among the filaments some small portions of a soft substance are here and there entangled. The rest of the mucous membrane is healthy; the muscular coat is a little hypertrophied; the prostate gland is healthy.

The patient was a painter, 65 years old, who had for sixteen

years had lead-palsy. About five months before his death he had a constant desire to evacuate his bladder; he used to do so every half-hour, and what was discharged had the appearance of fluid blood, and on being left at rest coagulated in one mass. This attack lasted a month, and then passed off. He had before had several similar, but much slighter, affections of the same kind. About a fortnight before his death the same symptoms were renewed, and he died exhausted by the loss of blood and the increase of his paralytic affection.

The case is related and the preparation is engraved in Sir Everard Home's 'Practical Observations on the Prostate Gland,' London, 1818, vol. ii. p. 49; and pl. x. p. 301.

Presented by Sir Everard Home.

3695. A bladder opened in front. In the posterior and inferior part, about midway between the orifices of the ureters, growing from the mucous membrane, is a small fimbriated papilloma, about half an inch in diameter, the surface of which is covered by long, delicate, floating, branched processes.

3696. A bladder everted, showing a number of soft shreddy or villous papillomata of various sizes attached by narrow pedicles to the mucous surface near the fundus. One of these, much larger than the rest, being an inch broad at the base and an inch in length, springs from the mucous membrane close behind the orifice of the right ureter, which it closely overhangs. A smaller and flatter growth is at the anterior part of the trigone, near the vesical orifice of the urethra. The other growths are very small, and lie some distance behind the trigone. The muscular coat of the bladder is universally thickened, and at the fundus much fasciculated.

From a young man who died suddenly in the country, apparently from exhaustion; eighteen months previously he had been a patient in Guy's Hospital, with suspected tumour of the bladder. Both kidneys had dilated calyces and their secreting structure was atrophied.

Presented by Edward Cock, Esq., 1867.

3697. A bladder and prostate gland, with two soft, spongy

and flocculent growths from the mucous membrane near the orifices of the ureters. They resemble those last described, except in that a larger portion of them is composed of solid "medullary" substance, so that their surfaces alone have the tufted, flocculent character, and in the rest of their extent they more resemble the large and solid medullary tumours of the bladder.

"*An Excrescent or Fungated Sore in the Bladder.*

"About sixteen years ago a small quantity of blood came by the urethra; but that went off, and no more attention was paid to it. About six or seven years ago, as he was going a pretty quick journey from Italy to Paris, the bleeding returned, but more severe than the first, and lasted longer, but it went off as before.

"About three years ago he was attacked with the same complaint, but only in a small degree, with a tickling pain in the perineum. He took bark, steel, was cupped on the part, and leeches applied. The complaint went off as before, but it returned more and more frequent, although not with such violence. The pain, or uneasy sensation, would often appear to be in the anus.

"About two years ago these fits were often attended with straining frequently to make water, and mucus floating in the water when newly made; but these symptoms, like the former, would disappear. But they generally returned now with more violence, till at last they became very frequent and violent, and between the fits the complaint did not entirely disappear.

"About a year ago, at Bristol, he was taken with a violent bleeding from the urethra. A continual tickling pain was felt in perineo, often in the anus, sometimes in the glans penis, and frequent inclination to make water, attended with violent strainings, mucus floating in the water mixed with streaks of blood, and sometimes considerable bleedings with strong concretions mixed with the mucus, and at times attended with feverish complaints.

"From the blood's sometimes coming away at the last contraction of the bladder, in clear drops, with the tickling in the perineum, made me suspect that the disease was in the urethra, somewhere near the beginning. From all the symptoms taken together, many suspected it to be the stone (although he never had the least complaint in his back, nor ever any sickness at stomach); therefore he was searched several times, but no stone was felt. But I was clear that the small concretions were formed in the bladder occasionally, and were only an effect of some other disease—not a cause, mucus in the bladder acting as an extraneous body, which destroys the power of suspension in the urine. Balsams, such as the tolu, copaiba, terebinth, chio, &c. were given.

but to no effect. Bark, steel, &c., as well as tar and lime-water, proved all ineffectual.

"What was very singular, his being almost perfectly well at times; which made me suspect it arose entirely from irritation in those parts, not from a diseased state of them; as I could hardly suppose that any part so diseased as to produce such violent symptoms could get well in such short time, or, if it did not get well for the time, that it could be so easy as it was at times.

"In a fit of despair he put himself under Dominicetti, who, according to his usual method, steeped him twice, stoved him twice, and fumigated the perineum twice every day for three months, but was still liable to the same relapses. At last one of these fits of irritation and fever carried him off.

"Some days before he died he was attacked with an hiccough, which was often attended with a throwing up everything in the stomach, both of which proved very troublesome. Whilst in this last stage the irritation went off entirely, and he retained his water, which was become very highly coloured from the blood.

"Simple life seemed to decay fastest; for while he seemed sinking, and all the animal functions almost at an end, yet sensibility of body and clearness of mind still subsisted."—*Hunterian MS. Cases in Surgery*, p. 129.

"*Dissection of the Rev. Mr. Vivian.*

"On opening the body the original disease seemed to be spongy bodies arising from the inner coat of the bladder, projecting into that cavity. These had a good deal the appearance of piles, and were almost the bigness of a small walnut each, with ragged surfaces; the coats of the bladder were thickened in the muscular coat, but not diseased, and some parts of the inner coat were hardened, exactly as if lunar caustic had been applied to it. The other parts were redder than common. The ureters were thickened very much in their coats, and bloody on their inner surfaces. The left kidney was become more irregular in its external figure than common. The capsula, or coat, more easily separated than in a sound state. The substance softer, yet tougher, than common, and in many places white. The pelvis had a slimy matter in it, such as often came away by the urine. The right kidney, to external appearance, was very large; but, on cutting into it, was found a good deal of grumous blood between its coat and substance, which had dilated the coat and compressed the kidney.

"This case shows how much we were mistaken. Some would have it to be the stone. I did not suppose it at all in the bladder, but in the beginning of the urethra, because often a drop or two of pure blood came away in straining; but the only way of accounting for this is, that those two bodies might be often almost squeezed into the urethra, and then the bleeding from them would be immediately squeezed into the urethra. It shows that any dead part in the bladder is capable of decomposing the urine, and

thereby form stony concretions, and that this gravel was an effect. It shows that a disease in the bladder is capable of producing a disease in the urethra, and also in the kidneys themselves.

"What was the disease? Was it cancerous? or was it of the pile kind? I should suppose the last; if so, why not try if sulphur will do as much in this place, as near the anus or about the verge of it?"—*Hunterian MS. Dissections of Morbid Bodies*, No. 158, p. 260.

3697 A. A urinary bladder with a rounded papilloma, which is flocculent on the surface, and one inch in diameter. It springs from the mucous membrane immediately above the orifice of the right ureter. The bladder is contracted, and its walls are hypertrophied.

From a man, aged 85, who had suffered for fifteen years from profuse and almost constant hæmaturia. Death took place with bronchitis and senility. When received the tumour was very much softened by decomposition, so that a satisfactory microscopic examination could not be made.

Presented by Dr. Hickman, 1884.

3697 B. Several firm outgrowths from a bladder. They are slightly flocculent on the surface, but of firm texture.

Microscopically they showed generally the characters of cancer, being composed of alveoli filled with round, elongated, and columnar epithelium, and bounded by delicate bands of connective tissue.

Removed by perineal incision from the bladder of a man.

Presented by Sir Henry Thompson, 1883.

3698. A bladder, the whole mucous surface of which is covered with an uneven, finely nodulated growth, probably an epithelioma; at the lower part of the bladder the growth is more prominent and villous.

From a lady, aged 57, who passed blood in her urine at intervals during the three years preceding her death. A similar tumour (No. 3698 A) developed in the radius; uterine fibroid growths and a dermoid cyst of the ovary also existed. Fragments of the vesical tumour were passed in the urine and recognized. (See MS. Notes, vol. iii. p. 88, for microscopical drawings of the growth.)

Presented by John Hilton, Esq., 1877.

3698 A. The lower end of the bones of a forearm, from the same patient as No. 3698. An oval, soft cystic tumour with villous growths projecting from the walls of the secondary cysts, occupies more than two inches and a half of the shaft of the radius close to its carpal extremity, and projects more anteriorly than backwards. It is an almost perfect reproduction of the primary growth.

Presented by John Hilton, Esq., 1877.

3699. Section of a bladder, prostate, and part of the urethra. The mucous membrane of the bladder is thickened, ulcerated, and over a large extent beset with irregular "fungous" growths, the free surfaces of which are covered with calculous matter. The muscular coat is thickened, and all the tissues appear condensed and indurated.

Presented by William Norris, Esq.

3700. A bladder, of which the mucous membrane, at the neck and for a considerable extent above and around it, is covered by a flat cancerous growth. The borders of this growth are deeply sinuous and elevated ; in one situation it appears ulcerated ; elsewhere its surface is nearly smooth, but fissured : its texture is soft and spongy. In other respects the bladder and the adjacent parts are healthy.

Presented by Sir William Blizard.

3701. Part of a bladder, on the posterior and lower wall of which there is an extensive cancerous growth. Part of this growth, covering the surface of the bladder in a circular area about three inches in diameter, is scarcely elevated above the level of the surrounding membrane; its exposed surface is cracked, sponge-like, and covered with fine, short, close-set shreds and flocculi. Near the neck of the bladder are two soft and partly flocculent tumours, attached by narrow bases, and projecting like tufts into the cavity. The rest of the mucous membrane, and the muscular coat, of the bladder are thickened. *Presented by Sir Everard Home.*

3701 A. A urinary bladder opened by a horizontal incision from before backwards. Its walls are infiltrated with a soft cancerous growth which, on the anterior wall, has attained an inch and a quarter in thickness. The growth projects from its inner surface in irregular papillæ and shreds. One of these, about an inch in length, forms a tubular prolongation from the orifice of the right ureter, as if a prolapse of the mucous membrane had taken place.

In microscopic structure the tumour had the characters of a soft cancer. Rather small spheroidal cells were aggregated into larger or smaller masses, and enclosed within alveoli formed by a fibrous stroma, which was scanty in the softer parts of the tumour.

The patient, a man aged 35, did not appear to have suffered any inconvenience until four or five weeks before his death, when his urine began to pass involuntarily; it was offensive, and contained no blood but much pus. He complained of shooting pain in his perineum and of constipation. A stone having been struck on sounding the bladder, lithotomy was performed and a calculus of oxalate of lime, weighing $1\frac{1}{2}$ oz., was removed. He died on the seventh day after the operation. The kidneys were dilated, disorganized, and contained pus. (See MS. Notes, vol. iii. p. 189.)

Presented by John R. Lunn, Esq., 1884.

3702. A bladder, nearly the whole cavity of which is filled with a firm tumour, of a spheroidal shape, between four and five inches in diameter, cracked and slightly knobbed on its exposed surface. The muscular coat of the bladder is thickened; the part of the mucous membrane which is not covered by the tumour appears healthy.

From an old man, in whom signs of the growth of the tumour had long existed. A very hard tumour formed in the situation of the deep inguinal glands some weeks before death.

Presented by L. Foakes, Esq.

3703. A similar specimen. The tumour, which arises from the posterior wall of the bladder, appears to have been very vascular, and its anterior and lower part is soft and broken.

The patient, a powerful and apparently healthy man, 59 years old, had signs of disease of the urinary organs for about six

months, and had been repeatedly sounded in the suspicion that he had stone, when, three days before his death, he was admitted into St. Thomas's Hospital with supposed retention of urine. The catheter evacuated a fluid like a mixture of blood and mucus; its introduction produced extreme pain and no relief. His urine constantly dribbled from the urethra, and he suffered extremely with pain in and around his bladder.

Presented by Benjamin Travers, Jun., Esq.

3704. A female bladder, the cavity of which is nearly filled with a tumour, probably hard cancer, growing apparently with a broad base from the greater part of the surface of the mucous membrane. The tumour is nearly spherical, and about five inches in diameter. Its surface is smooth and slightly knobbed; a section of its posterior part shows that its interior is soft, spongy, and traversed by wavy, filamentous partitions, as if it were composed of many lobes. The walls of the bladder are thickened, and the surface of the mucous membrane is rough and flocculent. The vagina and uterus are flattened by the pressure of the tumour.

From the Museum of John Howship, Esq.

3705. A section of the bladder of an Ox, with a large "fungous" tumour, probably of malignant nature, growing from the lower part of the anterior surface, and nearly filling the whole of the cavity. The fibrous stroma of the tumour, which appears to be continuous with the walls of the bladder, is so arranged as to form several loculi or cysts, which are filled up with a soft, dark-red material, resembling medullary cancer. *Donor unknown.*

3706. The right half of a urinary bladder, divided by a vertical antero-posterior section, with a portion of the penis. The upper and anterior two thirds of the walls of the bladder are completely lost in a mass of firm, uniform, pale, new growth, having the minute characters of a lympho-sarcoma. The growth has filled the cavity of the bladder, with the exception of a small space at its lower and posterior part; into this the ureter opens. The surface of the morbid growth pro-

jecting into the bladder is irregular and superficially ulcerated.

Microscopically, the tumour was composed of small round or lymphoid cells, closely aggregated, and forming round or elongated clumps enclosed in a meshwork of homogeneous fibrils. The deeper parts of the tumour contained much fibrous tissue.

From a man aged 68, a carriage-painter, who had been in good health until the early part of the year 1881, when he complained of pain in the loins, and his urine became thick and occasionally tinged with blood. He was several times sounded for stone without result. He sank gradually, and died exhausted in October 1883. The pelves of the kidneys and the ureters were dilated, but the other organs were healthy.

Presented by J. F. Fry, Esq., 1884.

3707. A vertical section of a bladder and rectum. The prostate and the lower part of the bladder are occupied by a solid growth, which has infiltrated the neighbouring structures, extending forwards along the corpora cavernosa of the penis, without actually invading the urethra, though it obstructed that canal by pressure. The growth is a sarcoma, principally composed of round cells; on its free surface are numerous villi.

The parts are more fully described, and the histological features of the growth are depicted, in the MS. Notes, vol. i. p. 339.

Presented by Sir William Fergusson, 1871.

3707 A. A tumour, involving the whole thickness of the wall of the bladder, and projecting somewhat prominently from its free or external surface, above and slightly to the outer side of the right ureter. The inner surface of the bladder corresponding to the tumour is not unduly prominent, but is superficially ulcerated and flocculent. A section of the new growth is firm and fibrous in texture. Upon the right side of the bladder is a hernial protrusion of the mucous membrane through the muscular coat. Both the ureters are dilated, but there was no obstruction to the passage of a probe through the vesical orifice of the left ureter. The kidneys, with their pelves, were dilated and atrophied.

Microscopically, sections of the tumour were traversed by bands

of unstriped muscle-fibres. Infiltrating and interspersed between the bands were small round cells and nuclei; also large spheroidal cells, having an epithelioid appearance; the latter were in many parts aggregated in groups or clumps. There were appearances which might be taken to indicate a new formation of muscle-fibres.

Presented by John Penhall, Esq.

3707 B. A small matted lock of hair, each filament of which is covered with a deposit of urinary salts.

The deposit was not entirely dissolved by steeping in nitric acid, but the remainder, consisting of amorphous crystals and fatty matter, was easily separated from the hairs after soaking in ether.

The hairs are fine and pale, and contain a few elongated pigment-granules scattered throughout the hair, but not collected at the centre.

From a well-nourished married lady, aged 30, who, after an operation for piles, complained of frequency of micturition and vesical irritation. The urine contained mucus and pus. Before the expulsion of this lock of hair, she passed single hairs on one or two occasions. Subsequently a digital exploration of the bladder was made, a pedunculated tumour was discovered, and completely removed. The tumour was of the size and shape of a "button-mushroom;" it was thickly covered with hair, and, microscopically, was composed of a thick layer of skin containing sebaceous glands, and of fibrous tissue.

Presented by Thomas Bryant, Esq., 1884.

Calculi and other Foreign Bodies in the Bladder, and their Effects.

3708. A bladder, with the prostate gland. The muscular coat of the bladder is thickened, and its fasciculi project within the cavity; but in other respects both it and the prostate are healthy. It contains an oval, tuberculated calculus, measuring an inch in length and half an inch in thickness.

From the Museum of Robert Liston, Esq.

3709. A bladder, in which there rested, in a shallow depression above and behind the prostate gland, a large rough calculus of an oval form, and measuring in its several diameters about an inch and three quarters, an inch and a half, and

an inch. The mucous membrane is thickened, indurated, and superficially ulcerated; it has also the appearance of having been very vascular. The muscular and cellular coats are thickened and indurated; and the peritoneum and other tissues around the bladder are condensed and unnaturally adherent. The ureters are dilated and thickened; the bladder and prostate are of ordinary size.

From a man who committed suicide after long and unalleviated suffering from the stone, the presence of which had never been detected, though he was repeatedly sounded.

Presented by William Norris, Esq.

3710. A bladder greatly hypertrophied and nearly filled by a large stone. On the posterior surface is a sacculus communicating with the bladder by a small aperture, and lined by a thick false membrane. The left vas deferens adheres to its outer surface.

From an aged man brought to St. Bartholomew's Hospital in a dying state, unfit for any form of operative relief. The ureters and calyces of the kidneys were much dilated. One kidney is preserved, 3534.

Presented by Thomas Wormald, Esq., 1865.

3711. A bladder, prostate gland, and adjacent parts. The bladder contains a very large rough calculus, which is lodged in a deep hollow, situated directly above and behind the prostate gland, and involving apparently some part of the prostatic portion of the urethra. The cavity of the bladder is contracted; its coats are thickened and indurated; its mucous membrane is especially thick, hard, rough, and granular, with thin deposits of calculous matter adhering to its projecting parts. The prostate is enlarged.

From the Museum of Robert Liston, Esq.

3712. A section giving a side view of a bladder and prostate gland. The bladder contains two flat and smooth oval calculi, each measuring in their several diameters about two inches and a half, one inch and a half, and three quarters of an inch. They rest in a large and deep hollow behind the

prostate gland. The bladder is moderately distended. The muscular tissue is a little hypertrophied; the mucous membrane is slightly thickened, and, at the upper part of the bladder, is pushed out in several small sacculi. The prostate is enlarged, especially in that part which is in front of and above the urethra, and which is nearly an inch deep, while that below the urethra does not measure more than half an inch. The prostatic part of the urethra is dilated, and presents an opening at its side which appears to communicate with a cavity within the gland.

From the Museum of Robert Liston, Esq.

3713. A bladder, containing a large calculus. The bladder is enlarged and remarkably elongated; its mucous membrane is ulcerated and shreddy; the hypertrophied muscular fasciculi stand-out in prominent ridges upon its surface, forming a kind of coarse network, through some of the meshes of which sacculi of the other coats had begun to form. The prostate gland is enlarged to nearly three times its natural size. The calculus appears to have been held above it in the elongated and contracted bladder.

Hunterian.

3714. A bladder, prostate gland, &c. The bladder has an elongated cylindrical form, and appears composed of two cavities separated by a slight constriction at its middle, as in Nos. 3661 and 3662. The uppermost of these cavities, which is above the orifices of the ureters, was filled by a large calculus. The muscular coat is hypertrophied, and the mucous membrane somewhat sacculated. The prostate gland is enlarged, especially in its anterior and upper part.

Presented by Sir Everard Home.

3715. A bladder and prostate gland. The bladder contains a large calculus, covered with phosphatic deposits. The muscular and mucous coats are thickened, and the latter is deeply corrugated and depressed in small pouches between the projecting fasciculi of the former. The prostate is much

enlarged, especially in its lateral lobes, which project upwards into the bladder, and are connected posteriorly by a broad deep ridge. Behind and above the prostate, close to the right ureter, the cavity of a large abscess opens into the bladder, and is exposed from behind. It appears to have been formed in the cellular tissue external to the bladder, between it and the rectum. The ureters are dilated.

The patient, a man 64 years old, had long had symptoms of stone, for which muriate of lime was given. He died of acute peritonitis.

From the Museum of Robert Liston, Esq.

3716. A cast from the dilated ureter, pelvis, and calyces of the patient whose case was last mentioned. The pelvis is three inches in width. *From the same Museum.*

3717. Part of a bladder, with the prostate gland, &c. There are several small saccular extrusions of the mucous membrane, of which two contain calculi that exactly fill them without projecting into the bladder. The texture of the mucous and muscular coats of the bladder is healthy.

From the Museum of John Heaviside, Esq.

3718. A bladder, at the posterior part of which there are two sacculi, formed by partial dilatation of all the coats, and each containing a rough irregularly shaped calculus. The orifices by which the sacculi communicate with the cavity of the bladder are contracted. They are filled by portions of the calculi projecting into the bladder, but these are much smaller than the portions of the calculi which lie in the expanded parts of the sacculi; so that it would not be possible to pull the calculi into the bladder without either breaking them or tearing the orifices of the sacculi. The muscular coat of the bladder is half an inch thick; its cavity is contracted to an inch and a half in diameter; its mucous membrane indurated and thickened; and the prostate gland is slightly enlarged. *Hunterian.*

3719. A portion of a urinary bladder, including the trigone, dried. A small smooth calculus lies in a pouch, the orifice of which is about a quarter of an inch in diameter. This pouch projects backwards half an inch behind the entrance of the left ureter into the bladder.

Presented by Dr. Airey, 1868.

3720. A bladder and prostate gland, with several calculi. The bladder is contracted; its coats are thickened and indurated. The mucous membrane is in parts superficially ulcerated and granular, and is protruded in many small sacculi between the bundles of muscular fibres. Some of these sacculi contain small white calculi, tightly imbedded in them; and loose in the bottle are several fragments of calculus, and one of larger size, from which portions of the outer layers have been broken off, apparently after spontaneous separation within the bladder. The prostate gland is greatly enlarged.

The patient was eighty years old, and had long had signs of stone.

From the Museum of Robert Liston, Esq.

3721. A bladder, with the prostate gland, a portion of the penis, and other adjacent parts. The cavity of the bladder, which has been exposed by the removal of part of the posterior wall, is contracted and was nearly filled by a large calculus, the external layers of which have split into numerous fragments. Some of these fragments lie loose in the bladder, some, with the calculus, are at the bottom of the bottle, some are lodged in sacculi of the bladder, and some impacted in the urethra. The walls of the bladder are thickened, and appear indurated; the prostate gland and vesiculæ seminales are enlarged.

The patient was about 80 years old. The separation of the calculus into its layers was spontaneous. The case is further detailed in Mr. Liston's 'Elements of Surgery,' p. 633, ed. 2.

From the Museum of Robert Liston, Esq.

3722. Section of a bladder and prostate gland. The coats of the

bladder are thickened and hardened, and the several tissues composing them are confused. The mucous membrane is in several places pushed out between the muscular fasciculi, forming small sacs, in some of which calculi are tightly impacted. Some of these sacs, also, into which portions of whalebone have been passed, are laid open from the exterior of the bladder, and display their lining of mucous membrane slightly ulcerated. The prostate is enlarged; its middle lobe projects into the bladder, and its surface is ulcerated and in some parts covered with calculous deposits. There is also a slight projection of the right lobe of the prostate into the urethra, making the canal tortuous. The ureter is dilated. *From the Museum of John Howship, Esq.*

3723. A bladder, with the prostate gland and other adjacent parts. The bladder is distended; its mucous membrane, thickened, granular, and superficially ulcerated, is beset with a vast number of small angular and irregularly shaped white calculi, which are fixed in little depressions of its surface. They are most closely set at the lower and back part of the bladder, where many of them are also fixed to one another in a continuous incrustation by intermediate deposits of calculous matter. Several similar calculi adhere to the mucous membrane of the prostatic portion of the urethra, and many more, which are now scattered about, lay loose in the cavity of the bladder. The prostate gland is enlarged. There is a large quantity of adipose tissue around the bladder.

From an old man, who had signs of stone for a long time before his death.

From the Museum of Robert Liston, Esq.

3724. A bladder and prostate gland, together with the ureters and kidneys. The upper third of the bladder is deeply fasciculated, and appears contracted; it is separated by a broad and prominent muscular fasciculus from the lower two thirds, the walls of which are dilated and not at all fasciculated. The lining membrane of the lower two thirds is generally ulcerated, and is covered with a layer of lymph or tough

mucus, in which numerous small white angular calculi are imbedded and, in some places, form a continuous incrustation. In the upper third there are several small calculi in the pits between the projecting fasciculi of the muscular coat, but the mucous membrane appears healthy. The prostate gland is enlarged, and the lining membrane of the urethra within it is ulcerated and incrusted with calculous matter. The ureters, pelves, and calyces are enlarged. Much of the substance of the kidneys has disappeared, but what remains is healthy. *Hunterian.*

3725. A bladder, the cavity of which is very much contracted and nearly filled with calculi. One of these, of an oval form, and an inch and a half in its chief diameter, occupies almost all the neck of the bladder, and, with others of smaller size, appears to have blocked up the vesical orifice of the urethra. The muscular coat of the bladder is more than half an inch thick; the mucous membrane is thickened and deeply corrugated.

From the Museum of John Taunton, Esq.

3726. A bladder and penis, laid open from the posterior and lower part. The bladder contains two calculi of irregular shapes and very rough, and there are several calculi of the same kind, but smaller, in the prostatic and membranous parts of the urethra, both of which are dilated and ulcerated. The mucous membrane of the bladder is thickened; the muscular coat is, in a slight degree, hypertrophied.

Presented by Sir Everard Home.

3727. A bladder and prostate gland. The bladder is dilated, and its coats are thin; its mucous membrane is superficially ulcerated in nearly every part, and rather deeply ulcerated at the neck and above the prostate, where there is a hollow, in which a rough calculus, more than an inch diameter, is lying. The prostatic part of the urethra is dilated, and its surface is very uneven as if either a calculus had lain in it, or it had been the seat of abscess. Just behind the veru-

montanum a thin band of membrane extends across the urethra. *From the Museum of Robert Liston, Esq.*

3728. A bladder, with a portion of the urethra and the adjacent parts, laid open from behind. The bladder is closely contracted around a large, rough, oval, and flat calculus, about an inch and a half in diameter; its walls are thickened, and its muscular coat much hypertrophied. A portion of purple glass is passed through the prostatic part of the urethra into the bladder, and marks also the situation at which this part of the urethra communicates with a large smoothly walled cavity just above the prostate, between the posterior and inferior wall of the bladder and the vesiculæ seminales. This cavity is laid open by an incision from behind between the vesiculæ seminales, and it communicates with the urethra alone; it appears by its pressure to have pushed the bladder upwards and forwards. The ureters are dilated, but the other adjacent parts appear healthy.

The patient was a labourer, 55 years old. He was admitted into St. George's Hospital with great pain in the loins and across the pubes, inability to retain his urine, but constant desire to pass more, and pain in attempting to do so, and other general signs of calculus. These symptoms had commenced seven years previously, and had gradually grown worse. No stone could be detected in repeated examinations both with the sound and through the rectum. At length the urine became purulent, and the patient was slowly exhausted.

Extensive suppuration of both kidneys was found. It is uncertain how the cavity behind the bladder and prostate was formed; but it is most probable that it was an abscess-cavity, and that in sounding for the stone the instrument had passed into it. There is, moreover, little doubt that this cavity, displacing the bladder, had prevented the stone from being felt through the rectum. (See also No. 3660.)

From the Museum of R. B. Walker, Esq.

3729. The urinary organs of a man 50 years old. The ureters, pelves, and calyces are dilated, especially on the left side, on which a part of the ureter is nearly an inch in diameter, and a great portion of the glandular substance of the kidney has been removed. A calculus is lodged in one of the dilated calyces of the left kidney; the right kidney is

nearly healthy. The muscular coat of the bladder is hypertrophied. Its mucous membrane is thickened, and just above the orifices of the ureters there is a small deep cavity in which a calculus had long rested. The left ureter opens at the summit of a papilla-like eminence of mucous membrane half an inch high. The prostate gland and urethra are healthy.

The patient had a stone removed from the urethra five years before death, but always afterwards suffered extreme pain in the urinary organs, and incontinence of urine.

From the Museum of John Taunton, Esq.

Lithotomy.

3730. The bladder of a boy 14 years old, who died soon after being cut for the stone. It is so contracted that its cavity is not more than an inch in diameter ; its muscular coat is half an inch thick, and very strong ; its mucous membrane is thickened. At the summit of the bladder there is a small papilla-like eminence of mucous membrane projecting downwards ; it is indicated by a bristle ; its nature is uncertain. The lateral section of the prostate is well shown ; it is directed almost straight outwards.

Hunterian.

3731. The bladder, uterus, and rectum of a girl 4 years old, who was cut for stone shortly before death. Part of a large incision is shown extending through the neck and into the adjacent left wall of the bladder. The mucous membrane of the bladder is thickened and corrugated, and its internal surface is covered with a thin layer of lymph ; the muscular coat, also, is much thickened. A considerable portion of the rectum is protruded. The kidney of the same child is preserved in No. 3614. *Hunterian.*

3732. A bladder and prostate gland. The bladder is contracted, and all its coats are thickened. The prostate is enlarged to twice its ordinary bulk, the increase being equal in all its parts. A portion of wood is placed in the track of the

wound made in the left side and lower part of the gland in the operation of lithotomy.

The patient, 70 years old, had long had signs of stone in the bladder, and for some time frequent retention of urine. He died twenty-two hours after the operation.

From the Museum of Robert Liston, Esq.

3733. The lower part of a bladder, from a man who was cut for stone shortly before death. The bladder is laid open from behind, and bristles are passed through the vasa deferentia. There is extensive and deep ulceration around the neck of the bladder and the other parts implicated in the operation.

Hunterian.

3734. A bladder, with the prostate gland and other adjacent parts. The coats of the bladder are thickened. The prostate gland is slightly enlarged, the verumontanum unusually prominent. A portion of whalebone is passed through a canal, about a line in diameter, which traverses the posterior and lower part of the prostate gland and the immediately adjacent part of the bladder. This passage was left after the healing of all the rest of the wound made in an operation for stone.

From the Museum of Robert Liston, Esq.

3735. A bladder, prostate gland, and part of the penis of an elderly gentleman, who was cut for stone three weeks before death. Two calculi were removed, and a third of small size remains in the bladder. The walls of the bladder are increased to more than half an inch in thickness, chiefly by the hypertrophy of the muscular coat. The mucous membrane is deeply corrugated, but in other respects healthy. The prostate is enlarged to nearly three times its natural size. A portion of whalebone is placed in a narrow canal through the wall of the membranous part of the urethra remaining from the wound made in the operation; and an irregularity of the left side of the section made after

death through the prostate gland, probably indicates the changes consequent on the wound through its substance.

Presented by Sir William Blizard.

3736. A bladder and penis, laid open from the left side, and part of a perineum. The urethra is of its natural size, but two fistulous passages (indicated by bristles) lead from it to the perineum. One of these commences directly in front of the prostate gland, beneath which it passes for an inch backwards; the other, beginning at the bulb of the urethra, communicates at once with a large smooth-walled cavity, which has a long oval opening in the perineum. There is a large and partially ulcerated protrusion of the wall of the bladder close by the right ureter, as if a calculus had lain there. It is probable that lithotomy was performed some time before death, and that the wound of the urethra only partially healed. *Hunterian.*

3737. A bladder and prostate gland. The mucous membrane of the bladder is thickened, but in other respects that organ is healthy in texture. Its neck and the prostatic portion of the urethra are remarkably dilated; the latter is half an inch in diameter, and at its sides are two deep pits or grooves left after the wounds made in two operations of lithotomy.

The patient was a man 58 years old. He had signs of disease of the kidneys for twenty years, and of stone in the bladder for a long time. He died two years after the second operation, and his kidneys were found atrophied and in part ulcerated, and many of the calyces contained calculi.

From the Museum of Robert Liston, Esq.

3738. A bladder and prostate gland. The bladder is laid open by a vertical section a little to the left of the middle line; portions of glass are placed in the ureters. The bladder is small; its muscular coat is thickened, and its mucous membrane is thick and flocculent. A large oval calculus, formed chiefly of phosphates, and measuring nearly two inches and an inch in its two chief diameters, is tightly fixed in the prostatic portion of the urethra, and in the

substance of the gland, which, as well as the neck of the bladder, is ulcerated around it. That part of the calculus which projects beyond the prostate, and which appears as if a portion had been broken from it, lay in the track of a wound left after an operation of lithotomy.

The patient was cut for stone when he was 50 years old. The wound did not heal; and two years afterwards he died with all the signs of a stone being still in the bladder.

From the Museum of Robert Liston, Esq.

3739. Section of a bladder, with the prostate gland and part of the penis. In the bladder, just behind the prostate, there is a flat oval calculus, about an inch in length, from which the fragment lying near it was broken off with the percuteur before the patient's death. The coats of the bladder appear to be healthy. The prostate is enlarged.

The patient died with an affection of the liver.

From the Museum of Robert Liston, Esq.

Puncture of the Bladder.

3740. A bladder, with part of a penis, the symphysis pubis, and a portion of the abdominal walls. A piece of glass is passed through a canal of dense tissue, extending from the integuments to the middle and lower part of the anterior wall of the bladder, which canal was made three years before death to relieve retention of urine. Both the orifices of the passage are nearly healed, and the tissue around them appears healthy. The muscular coat of the bladder is thickened but flaccid. The cause of the retention of the urine is shown in a very narrow stricture in the bulbous part of the urethra, through which a bristle is passed. The membranous and prostatic portions of the urethra also appear to have been ulcerated.

The patient was 46 years old, and had the stricture for many years before the retention of urine occurred. After the bladder was tapped many attempts were made to cure the stricture, but unsuccessfully. The patient at last became melancholic, and hanged himself.

From the Museum of George Langstaff, Esq.

3741. A bladder and penis, with a portion of the abdominal walls, and other adjacent parts. The bladder and urethra are exposed by the removal of parts of their left walls. Many years before death the bladder was punctured above the pubes, to relieve retention of urine, the consequence of stricture. The fistulous passage through which the urine afterwards passed is marked by a bristle placed in it. It is a quarter of an inch in diameter, and has a smooth internal membrane continuous with that of the bladder; it extends from the fundus of the bladder straight upwards and forwards through the abdominal walls. The tissues around it are condensed; the layer of peritoneum passing from the wall of the abdomen to the fundus of the bladder is close above it, and a portion of omentum is adherent near its orifice. The bladder is small, its muscular coat is thick, but pale and weak. A sacculus of mucous membrane, an inch in diameter, is protruded from the posterior wall; and one of smaller size from the right side of the anterior wall of the bladder; bristles are placed in the orifices of both of them. There is a very narrow stricture of the bulbous part of the urethra, through which a bristle is passed. The enlarged orifices of several urethral lacunæ are similarly marked. *From the Museum of R. B. Walker, Esq.*

3742. A bladder, prostate gland, and part of the penis, with the symphysis pubis, and a portion of the abdominal walls. The bladder was punctured above the pubes nearly four years before death, for retention of urine. The track of the passage thus made from the linea alba to the middle of the anterior wall of the bladder is partially laid open from the left side; it is about four inches long, and its orifices and interior are smooth. The bladder and the greater part of the urethra are laid open from behind. The cavity of the bladder is contracted; the muscular coat is hypertrophied; the mucous membrane is corrugated and granular. The ureters are greatly dilated. The prostate gland is enlarged to nearly three times its ordinary size, and its texture is very compact; at the posterior and middle part it

projects over the vesical orifice of the urethra. What is preserved of the urethra is healthy.

The patient was a gentleman 70 years old. For sixteen months he suffered with gradually increasing symptoms of enlargement of the prostate, and blood was occasionally passed with his urine. He was for a time relieved by local bleeding and medicines; but at length the difficulty of passing water increased till absolute retention ensued, and it was found necessary to puncture the bladder. After the operation the patient went on well, and kept a canula in his bladder for nearly six months, having returned in health to his business. With some difficulty an instrument was now passed through the urethra into the bladder (the only hindrance being the enlargement of the prostate), and the canula was withdrawn. The bladder, however, had lost its power, and for three years it was necessary to introduce the catheter twice a day. At the end of this time he was attacked with pain in the kidneys, and signs of stone in the bladder; the aperture made by the trochar, which had been long closed, re-opened, and discharged urine mixed with pus; and at length the patient died exhausted.

After death one large and several small calculi, together with calculous matter mixed with mucus, were found in the bladder, and the ureters and the pelves of the kidneys were full of pus.

From the Museum of George Langstaff, Esq.

3743. A bladder, with parts of the penis and rectum. There is a short but close stricture in the bulbous part of the urethra, through which a portion of whalebone is passed. This produced retention of the urine, for the relief of which the bladder was punctured from the rectum long before death. The canal thus made, which passes through the right vesicula seminalis, remains, but its orifices are not more than half a line in diameter; a portion of whalebone is placed in it. All the tissues adjacent to the opening in the bladder and rectum are healthy. The muscular coat of the bladder is somewhat hypertrophied, but in other respects that organ is healthy. The prostate gland is enlarged.

Presented by Sir Everard Home.

3744. A bladder, with a portion of the urethra and rectum. There is a stricture of the urethra in the bulbous portion which caused retention of urine; for this the bladder has been punctured through the rectum, establishing a

communication indicated by a rod of coloured glass. The puncture involved the left vas deferens, without occluding the passage, as was proved by injection of water when this specimen was dissected. The bladder is thickened, and its mucous membrane is covered with lymph and calcareous matter.

From a dock-labourer, aged 32. Fifteen years before death he had gonorrhœa, which was followed by a gleet of two years' duration. Ten years later a swelling formed in the perineum, which remained stationary for five years, when complete retention of urine occurred. The bladder was punctured through the rectum; two days afterwards he could pass urine by the urethra, but within nine weeks he died of pyæmia. Both kidneys were found to be enlarged, the right being nearly three times its normal size; their substance was disintegrated and studded with small abscesses; their pelves and calyces were dilated and thickened.

Presented by Edward Cock, Esq., 1870.

3745. A bladder, with a portion of the rectum. A quill is passed through an aperture of its own size leading from the bladder to the rectum, which, it is probable, was made with a trochar for the removal of the urine. The mucous membrane of the rectum is healthy; that of the bladder is sacculated, and in some situations slightly ulcerated. The prostate is enlarged to nearly double its ordinary size. The ureters are dilated and thickened.

3746. A bladder, prostate, and part of the rectum. The lateral lobes of the prostate are much enlarged, and the bladder much thickened. An artificial passage has been made from the rectum running obliquely backwards through the substance of the prostate, and opening into the urethra close to its vesical orifice, a little to the right of the middle line.

From a man who had acute retention of urine, after suffering for twenty years from stricture. After the bladder or, rather, the enlarged prostate, was tapped from the rectum, he sank rapidly. The kidneys were diseased.

Presented by Thomas Wormald, Esq., 1864.

Foreign Bodies removed from the Bladder.

3747. Thirty-one pins and one needle (part of a larger number) passed through, or extracted from, the urethra of a girl eighteen years of age.

The patient was of strumous constitution and subject to hysterical fits, which were frequently attended with vomiting of blood. While under treatment for these affections, on the 26th of February, 1835, the abdomen became distended, with great pain and a sense of pricking, attended also by shiverings and pains in the back and loins. On the 27th a pin passed by the urethra; on the following day another and two needles. On March the 1st three pins were voided, and but half an ounce of urine passed during the day. For about three weeks the quantity of urine varied from four ounces to a pint daily, though on some days it appears that more passed. During this time many pins and needles were passed or extracted, accompanied by a small quantity of pus and occasionally of blood in the urine. There were swelling and redness of the external organs of generation. Subsequently to the 25th of March, ten more pins and one needle were passed. The girl said that she had swallowed pins from time to time in sport; but, doubtless, she had inserted them directly into the bladder.

Presented by John C. Bellamy, Esq.

The principal other specimens of Diseases of the Bladder may be found by reference to the Series of General Pathology and of the Diseases of the Rectum, Prostate Gland, and Urethra.

Series XL. INJURIES AND DISEASES OF THE BRAIN.

Injuries: 3748 to 3752.
- Wounds, Lacerations, and Contusion: 3748, 3749, 3752, 3764.
- Bullet-Wounds: 3749 to 3751.
- Trephining: 3750.

Diseases:—
- Effusion of Blood (Apoplexy): 3753 to 3762.
- Degeneration and Softening: 3762 A.
- Increased Vascularity: 3763.
- Effects of Inflammation (Cerebritis): 3764, 3752.
  - Abscess: 3765 to 3770, 3778.
- Tubercle: 3771 to 3778.
- Morbid Growths and Cysts: 3778 A to 3792.
  - Vacuolation ("Gruyère-cheese" brain): 3778 A.
  - Melanotic Tumours: 3789.
  - Morbid Growths invading Sinuses: 3784.
- Diseases of the Blood-vessels of the Brain:—
  - Atheroma: 3793, 3796.
  - Aneurism: 3794, 3795.
  - Thrombosis: 3796, 3796 A.
- Entozoa: 3797 to 3804.
  - Echinococcus Hominis: 3797, 3798, 3799 ?
  - Cœnurus cerebralis: 3800 to 3804.
    - Uncertain Conditions: 3805.

Injuries.

3748. Portion of cerebrum, exhibiting rupture and ecchymosis of portions of its surface from concussion. The pia mater is torn more widely than the cerebral substance.

From the Museum of Sir A. P. Cooper.

3749. Portions of brain and dura mater, which were wounded by small fragments of the skull driven-in by a pistol-ball. Some portions of the bone are still sticking in the brain, which is ulcerated around them. The dura mater around the wound is thickened and covered with lymph.

Presented by Sir Everard Home.

3750. Another portion of the same brain and dura mater, showing the effects of similar injuries, and a circle of granulations from the dura mater, which probably projected into a hole made with the trephine. *Presented by Sir Everard Home.*

3751. A portion of the skull of the same patient. At the very edge of the wounded part, a spiculum of bone which was driven into the brain has firmly re-united, but in such a manner that it projects nearly half an inch downwards from the inner table. The adjacent part of the skull has new bone deposited on its inner surface.

The wound was received in a duel in India. The patient was sent to England, and the trephine was applied, but without any advantage.

Presented by Sir Everard Home.

3752. The greater part of the left hemisphere of a brain in vertical section, with the hinder portion of the skull. Through the supra-occipital region of the latter is a nearly circular punctured wound, which is continued through the posterior lobe of the brain into the posterior corner of the left lateral ventricle. The ventricle is enlarged, its walls are ragged, and it was filled with pus.

From a baker's boy, aged 16, who, while playing, was wounded by a pitchfork in the back of his head. He was insensible for a short time. During the night he had great headache, principally over the right eye, and he vomited. The pain and sickness continued next day, but twenty-four hours after the accident, he walked half a mile to the hospital, and when admitted answered questions correctly though slowly. There was a wound the size of a sixpence in the most protuberant part of the occiput, a little to the right of the median line. The next day (two days after the accident) the wound was probed and was found to extend three and a half inches from behind forwards. From this time he became first excited, then paralysed in some of his ocular muscles, and finally comatose and convulsed. He died on the evening of the eighth day.

Presented by Alfred Shaw, Esq., 1864.

Effusion of Blood into the Brain (Apoplexy).

3753. Part of the left hemisphere of a cerebrum, in the middle of which is a large apoplectic clot. There is an irregular

aperture in the left corpus striatum, through which part of the blood was effused into the cavity of the ventricle. The substance of the brain around the clot is deeply discoloured with blood effused in small points and infiltrated into it, and so is the surface of the corpus striatum adjacent to the rupture through it.

From the Museum of John Howship, Esq.

3754. The upper part of the right hemisphere of a brain, in the substance of which there was an extensive effusion of blood. The blood, also, burst through the surface of the brain and its investing membranes, and a large quantity was collected in the arachnoid sac.

From the Museum of George Langstaff, Esq.

3755. Part of the clot of blood from the preceding case of apoplexy. *From the same Museum.*

3756. The base of a brain, with the lateral ventricles exposed from above. Both the ventricles were distended with blood, which flowed into them through a rupture of the left middle cerebral artery, just below the left corpus striatum; portions of the coagula remain. The substance of the left corpus striatum, through which the blood passed, and all the adjacent part of the brain, appear to have been extensively lacerated by the effusion of blood. A distinct small effusion in the posterior lobe of the right hemisphere is exposed on the lateral surface of the specimen.

The patient was an Irish maid-servant, twenty-five years old. She had usually good health, but was low-spirited, and subject to headaches. A week before she died, having appeared confused and unwell on all the previous day, she was heard to fall suddenly, and was directly afterwards found senseless on the floor. Next day she was bled. In the evening she was completely paralysed on the right side, and had imperfect power over the left extremities. She spoke once in answer to a question, but with this exception she appeared wholly insensible to what was said to her. She sometimes moaned as if in pain, and had occasional very slight convulsions. She was able to swallow fluids; but the fæces and urine were passed unconsciously. In this state she lived seven days from the first seizure.

At the examination after death the blood-vessels in the pia mater were found very full, and there were small effusions of blood in its tissue. The blood filled, not the lateral ventricles alone, but the third and fourth ventricles also.

From the Museum of John Howship, Esq.

3757. A brain, from which the upper part has been removed, exposing the cavities of the ventricles. Filling and distending the left lateral ventricle from its extreme anterior to its posterior extremity, is a large, firm, dark-coloured clot of blood, which has also passed through the foramen of Monro into the middle and anterior portions of the right lateral ventricle, raising, and displacing to the right side, the fornix. Some blood is also effused into the substance of the left corpus striatum.

3758. Portion of a brain, exhibiting an extensive effusion of blood in the right optic thalamus and corpus striatum. The surface of the optic thalamus is torn, and part of the blood which was effused from it into the right lateral ventricle hangs loosely attached to it.

From a woman 70 years old. She lived some days after the apoplectic seizure, but was completely paralytic on the left side, and had a remarkable squinting and protrusion of both eyes, with contraction of the pupils and intolerance of light.

Blood was effused on the surface of the cerebral hemispheres, and the ventricles were full of blood and bloody serum. The arteries at the base of the brain were diseased.

From the Museum of George Langstaff, Esq.

3759. Part of a brain, showing the left corpus striatum extensively lacerated by an effusion of blood into its substance and through its surface.

From the Museum of George Langstaff, Esq

3760. Part of a brain, exhibiting large clots of blood in one of the lateral ventricles, effused, apparently, in consequence of rupture of the surface of the optic thalamus or corpus striatum. *From the Museum of Sir A. P. Cooper.*

3761. Parts of a cerebellum and medulla oblongata, exhibiting a clot of blood in the cavity of the fourth ventricle.

From the Museum of Sir A. P. Cooper.

3762. A firm coagulum of blood, which was effused into the cavities of the third and fourth ventricles of the brain.

Hunterian.

Softening.

3762 A. The upper half of a left cerebral hemisphere, affected with white softening. The cerebral substance is shrunken, and the convolutions are less prominent than in a normal brain. The membranes appear abnormally opaque, the Pacchionian bodies are abundant and prominent, and the subarachnoid spaces between the convolutions are unduly marked. In the recent state the brain was soft, friable, and moist. *Presented by Dr. Goodhart*, 1882.

Effects of Inflammation, and Abscess.

3763. Portion of brain, the vessels of which are minutely injected with size and vermilion. Its vascularity appears to be increased.

From a young woman who died on the fifth day of typhus fever. She was furiously delirious, and had been bled freely.

From the Museum of George Langstaff, Esq.

3764. Portion of cerebrum, the substance of which, in consequence probably of an injury of the head, is deeply and irregularly ulcerated, and at the borders of the ulceration appears infiltrated with blood and pus. The dura mater over the diseased part is, in a corresponding extent, thickened and covered with coarsely granulated and discoloured lymph. *Presented by Sir William Blizard.*

3765. Section of the anterior part of a cerebrum, in the left hemisphere of which is the cavity of a large abscess. It has irregular and coarsely granulated walls, and opens ante-

riorly by an orifice, half an inch in diameter, through the surface of the brain, and the adjacent and adherent dura mater and other membranes. Lymph is deposited on the external surface of the dura mater around the aperture. The substance of the cerebrum immediately adjacent to the cavity of the abscess appears healthy. *Hunterian.*

3766. The central and upper part of the right hemisphere of a cerebrum, in which is the cavity of an abscess immediately beneath the pia mater. It has a wide opening externally, but this was made after death. The walls of the abscess are irregular, coarsely granulated, and covered, apparently, with lymph. The adjacent part of the brain is healthy.

From the Museum of John Howship, Esq.

3767. Part of the anterior and middle lobes of the left hemisphere of the same cerebrum. Near its lower part is a small circumscribed abscess with a well-defined wall, like a cyst. Its internal surface is nearly smooth; its walls are from half a line to a line in thickness, and have been in part separated from the adjacent substance of the brain, with which they appear to have been very intimately united. The dura mater is thickened, and firmly adherent to the surface of the brain over the abscess.

The patient was a girl 24 years old. She was healthy till nearly three years before her death, when she received a violent blow on the face, by which she was stunned, and her nasal bones were broken. Her lower jaw began slowly to close from the time of the accident, and she was never after able to depress it more than a quarter of an inch. For four months she was delirious, and two abscesses formed on the side of the face and throat. After the delirium ceased her left eye became inflamed and perished, though timely and actively treated. For more than six months previous to her death she suffered most acute pain of the head; in the last three months she was often incoherent and wandering in mind; and in the last fortnight lost all power of voluntary motion.

Besides the abscesses shown in the preparations, and some others of smaller size, the lateral ventricles of the brain were found distended with thick, fœtid, greenish-yellow pus, and their internal surfaces were diseased. The cerebellum was sound. The dura

mater was thickened, but not ulcerated. There was extensive ulceration of the inner table of the upper part of the skull; the specimen of which is preserved in No. 1263.

From the Museum of John Howship, Esq.

3768. Part of a skull, including the right temporal bone, with the portion of brain which rested upon it. There is a small ulcerated aperture on the anterior surface of the petrous bone, through which a bristle is passed into the internal ear. The dura mater is reflected from the diseased bone, lymph is deposited on it, and there is an aperture in it corresponding to that in the bone. In the substance of the adjacent part of the brain there is a large and deep cavity with irregular broken walls, the consequence, apparently, of acute inflammation and suppuration supervening on disease of the internal ear.

3769. Part of the brain of a Sheep, in which is a small circumscribed abscess, with irregular walls, just beneath the surface of the convolutions.

From the Museum of Sir A. P. Cooper.

3770. The lower part of the middle lobe of the right hemisphere of a cerebrum, in which the cyst of a chronic abscess is deeply imbedded. The cyst is spherical, and nearly two inches and a half in diameter. Its walls are half a line in thickness; externally they are closely connected with the brain, and internally are nearly smooth. Portions of the pus, which was scarcely fluid and of a pale greenish colour, remain within the cyst and loose in the spirit.

From a man 45 years old, who was ill six weeks, and during the last month of his life had paralysis of the left side.

From the Museum of John Howship, Esq.

Tubercle.

3771. Part of a brain, with a large mass of tuberculous matter in the right lobe of the cerebellum, and one of smaller size in the left middle lobe of the cerebrum. The pia mater

covering the base of the brain is thickened. The tuber cinereum is remarkably expanded.

From a boy 7 years old, who had signs of disease of the brain, with complete blindness, for five years. He died with an attack of acute inflammation supervening on the previous organic disease. The pia mater was vascular and thickened, and there was pus in the arachnoid sac. Twelve ounces of fluid were in the cerebral ventricles. There was tuberculous disease of the lungs, liver, and mesenteric glands.

From the Museum of George Langstaff, Esq.

3772. The right hemisphere of the cerebrum of an Arabian Baboon (*Cynocephalus hamadryas*) containing a spherical mass of tubercle, about an inch in diameter, in the middle lobe. The interior was softened into a yellow pus-like fluid. The lungs and other viscera contained tubercles.

Presented by the Zoological Society, 1863.

3773. The brain of a Baboon (*Cynocephalus babuin*) with numerous small round masses of firm yellowish tubercle, imbedded in different portions of the surface. Most of them are about a quarter of an inch in diameter, and are readily turned out from the surrounding brain-substance. One is situated in the Pons Varolii on the right side, others are in the convolutions of the cerebral hemispheres. The thoracic and abdominal viscera of the animal were extremely tuberculated (see preparations Nos. 2930, 3574, and 3574A).

Presented by the Zoological Society, 1863.

3774. A brain, showing numerous round masses of tubercle in various parts of its cortex. The nodules, some six or seven, appear to have formed at the bottom of the sulci, and they have so little connection with the brain-substance that it was quite impossible, after hardening the specimen, to obtain a microscopical section of both together. The microscope shows a small cell-infiltration round the circumference of each nodule, and an almost structureless degenerate central part. It thus corresponds with yellow tubercle, or a degenerating lymphadenoma.

From a lady aged 46. She had had enlarged glands on one side of the neck fourteen years or more. During the last year the glands on the other side had enlarged, and during the last few months large masses had appeared in the axillæ. During her final illness she had "neuralgia," hysteria, and a group of symptoms like those described by Charcot as diagnostic of "Sclérose en plaques." She had also double optic neuritis. (MS. Notes, vol. iii. p. 42.)

Presented by Jonathan Hutchinson, Esq., 1877.

3775. A mass of tuberculous matter, from the right lobe of the cerebellum of a child two years old.

There was tuberculous disease, also, in the lungs, liver, spleen, mesenteric, lumbar, and bronchial glands. The head was enlarged and deformed. The cerebral ventricles contained four ounces of fluid.

From the Museum of George Langstaff, Esq.

3776. A similar, but smaller tumour, from the right optic thalamus of a child six years old.

There was tuberculous disease in the lungs and in the lumbar, mesenteric, and other lymphatic glands. The cerebral ventricles contained upwards of ten ounces of fluid.

From the Museum of George Langstaff, Esq.

3777. Part of the base of a brain, exhibiting a small mass of partially and centrally softened tuberculous matter in the Pons Varolii.

From the Museum of George Langstaff, Esq.

3778. Part of a brain, exhibiting a large, probably tuberculous, abscess in the left lobe of the cerebellum. The abscess has irregular broken walls. The adjacent substance of the cerebellum appears to be disorganized, and the whole lobe is enlarged.

From a boy 7 years old, who was delicate from birth. When five years old he had an attack of fever, with severe affection of the brain, after which his mental powers gradually diminished, and he became dull and heavy. He frequently complained of pain in the head, especially about the occiput; his head enlarged, and for three months before his death he was nearly blind. Three

weeks before his death he had again an attack of acute disease of the brain.

Upwards of twelve ounces of fluid were found in the cerebral ventricles. There was tuberculous disease in the lungs, liver, spleen, intestines, and mesenteric glands.

From the Museum of George Langstaff, Esq.

Cysts and Morbid Growths in, or involving, the Brain.

3778 A. A section of a hemisphere of a brain, cut vertically from before backwards, and a horizontal section through the base in the region of the frontal and temporo-sphenoidal lobes. Scattered throughout the white substance are numerous rounded, elongated, sometimes tubular, or slit-like spaces, varying in size from minute puncta to that of a large pea. Some of them extend to a considerable length. Their margins are clearly defined, but have no line of membrane, being formed by apparently healthy brain-substance. The spaces are most thickly scattered near the centrum ovale, and give to parts of the brain a close resemblance to Gruyère cheese. They are probably produced by dilatations of the perivascular lymphatics.

From a man who died with diabetes, but who had no other symptom of brain-disease.

Presented by Samuel G. Shattock, Esq., 1882.

3779. A pons and medulla oblongata, with part of a tumour pressing on the former. The tumour is of a flattened oval shape, about an inch in its chief diameter, and has a pale, dense, hard texture, like common hard cancer. It has pressed deeply into the anterior and upper part of the left side of the pons, leaving the whole of its right half and the posterior fourth of the left half free, but completely involving the origin of the left trifacial nerve. Beyond this part the tumour extended laterally as far as the foramen auditorium internum, and forwards over the surface of the sphenoid bone so as to cover the foramina for the passage of the three divisions of the trifacial nerve. Neither the

medulla oblongata, nor the root of any of the nerves proceeding from it, is involved in the disease.

The patient, a lady, had complete insensibility of the left side of the face and head, with strabismus and double vision; but there was no imperfection in the movements of the face. The globe of the left eye was insensible to the touch, but vision was unimpaired, except that for some time before death colours could not be distinguished with that eye. No impressions were perceived when snuff or ammonia, or any other similar irritating substance, was applied to the left nostril, but the sense of odours was unimpaired. The left side of the tongue was insensible to impressions of both touch and taste.

The case is recorded in the 'London Medical Gazette,' vol. xiii. p. 163, London, 1834.

Presented by John Bishop, Esq.

3780. Section of the right hemisphere of a cerebrum, with three tumours, of which one is imbedded in its surface, and two are in its interior. The tumours are rounded; the largest, which is placed in the internal or median surface of the hemisphere, is nearly an inch in diameter, the others rather smaller. They are soft, granular, and apparently composed of medullary substance. The surface of one of them has blood effused upon it. The adjacent texture of the brain appears healthy.

The patient was 67 years old, a very active and acute man, who was well acquainted with and taught several languages, and "had often been employed during the late war in obtaining information on the Continent." He continued in complete possession of his mental faculties till within a day or two of his death, when he had some convulsive fits, and lost the use of his left side. His death appeared to be due to peritonitis, excited by a large tumour connected with the pancreas. The bones of the skull were very thin. There were other tumours of the same kind in the brain.

From the Museum of John Taunton, Esq.

3781. Portion of cerebrum, on the surface of which are several tumours from half an inch to an inch in diameter, composed of a firm, pale, and slightly vascular substance. They are situated beneath the pia mater, and are deeply imbedded in the brain, with which they are but slightly connected,

appearing to have been nearly insulated by suppuration around them.

The patient was a man 60 years old, who for several years was hemiplegic. About a year before his death he became idiotic, and for the last nine months of his life was subject to what appeared to be attacks of acute inflammation of the brain. In the last of these, which was attended with mania, he died comatose.

Pus was found in the pia mater, especially over the left cerebral hemisphere, and around all the tumours. Besides the tumours shown in the preparation, a cluster of the same kind protruded from the left corpus striatum into the lateral ventricle, and the ventricles contained a considerable quantity of purulent fluid.

From the Museum of George Langstaff, Esq.

3782. Portion of cerebrum, in the substance of which two tumours are imbedded close together. Each of them is spherical in its form, an inch in diameter, and apparently composed of a moderately firm, fibrous, medullary substance. They are loosely connected with the brain.

From the Museum of George Langstaff, Esq.

3783. Portions of the brain of a child, containing several masses of soft medullary matter, which either were very vascular or had blood effused in and around them. They are situated chiefly beneath the pia mater. There was medullary disease, also, of the inguinal glands and some other parts.

From the Museum of George Langstaff, Esq.

3784. Part of the dura mater of the child last mentioned. The longitudinal sinus is completely filled with a round, soft, red and pale coagulum of fibrine, with which medullary matter appeared to be mixed. Several of the veins opening into the sinus are similarly filled.

From the Museum of George Langstaff, Esq.

3785. The left hemisphere of a cerebellum, with the medulla oblongata, pons, and other adjacent parts. A tumour, which in its recent state was soft and pulpy, is situated upon the upper and inner part of the hemisphere of the

cerebellum ; it contains in its interior a large loose clot of blood. Another tumour of smaller size is seated over the tubercula quadrigemina ; and, in the inferior part of the same hemisphere of the cerebellum, is a large cyst with a smooth internal surface, which contains part of a clot of blood, and was filled in the recent state with a thick gelatinous-looking fluid and blood.

From a girl 15½ years old, who for more than eleven years had signs of chronic hydrocephalus. Her sight was lost, but her intellectual faculties were fairly developed ; she menstruated regularly, and was corpulent. She died suddenly.

After death the head measured twenty-five inches in circumference, and sixteen inches from one meatus auditorius externus to the other. The pia mater was infiltrated and thickened, and more than three pints of fluid were removed from the lateral cerebral ventricles. The septum lucidum was torn, and all the parts adjacent to the effused fluid were softened.

From the Museum of George Langstaff, Esq.

3786. A cerebellum, with the pons, medulla oblongata, &c. A firm oval tumour, probably cancerous, measuring about two inches and an inch and a half in its chief diameters, is deeply imbedded in the upper part of the cerebellum. It lies directly beneath the pia mater, and is loosely connected with it and the other adjacent parts.

Presented by Copeland Hutchison, Esq.

3787. A cerebellum, in the lower part of the right lobe of which an irregular spheroidal tumour, an inch in diameter, and generally resembling the preceding, is deeply imbedded, pressing upon the lower margin of the pons, and all the nerves from the left side of the medulla oblongata.

3788. A tumour, composed of a firm, compact, and obscurely fibrous substance, much like that of which the two preceding tumours consist. It was removed from a cerebellum, with which its surface appears to have been but loosely connected.

From the Museum of George Langstaff, Esq.

3789. Sections of a cerebrum, in which are several soft, dis-

tinctly circumscribed, and flocculent melanotic tumours, from one to eight lines in diameter. The adjacent texture of the brain appears healthy.

There were many other similar tumours in the same person.

Presented by Sir B. C. Brodie.

3790. The base of a brain with the anterior part of the base of the skull, showing rounded enlargements of all the cranial nerves from the growth within them of tumours, probably gliomata.

A full account of the clinical history of the case, with the conditions found after death, is in the Pathological Catalogue, Supp. 2 of Diseases of the Eye, No. 171, p. 82.

3791. The brain of an Anubis Baboon, with a shreddy tumour of considerable size growing from the region of the pituitary body. The tumour is only attached to the brain by what appears to be the right middle cerebral artery. The nerves at the base of the brain are quite healthy, as are also all the other parts of the brain.

In microscopical structure the tumour consists of epithelium arranged in an alveolar manner. It infiltrated some fibres of nerves in its neighbourhood.

The specimen was taken from an animal in the Zoological Gardens, which was well known by the name of "George." For some time before his death he appeared to suffer from intense headache. The duration of his illness was probably three or four weeks. He had towards the end general paralysis of all his limbs with chronic spasms and convulsions.

3792. The base of the skull from the same animal, showing an erosion of the pituitary and adjacent part of the middle fossæ, where the bone had undergone absorption in the growth of the tumour.

Presented, with the preceding, by the Zoological Society, 1876.

Diseases of the Blood-vessels of the Brain.

Atheroma.

3793. The arteries of a brain, having their walls thickened, and containing numerous deposits of fatty matter. *Hunterian.*

Aneurism.

3794. An anterior cerebral artery, of which a portion of the wall is dilated into a small, elongated, conical, aneurismal sac. The part of the sac most distant from the artery is filled with firm coagulum. The rest of the artery, except the part close to the aneurism, appears healthy.

From a woman 57 years old. The membranes of the brain were thickened and opaque, and a larger than usual quantity of fluid was found both in them and in the lateral ventricles.

The preparation is engraved in Mr. Hodgson's Engravings of Diseases of the Arteries, pl. vii. figs. 2, 3.

From the Museum of George Langstaff, Esq.

3795. The arterial circle of Willis, removed from its attachments at the base of a brain to show a small aneurism on each middle cerebral artery. That on the right side has the size of a small pea. On the left there is a mere fusiform dilatation of the vessel.

From a lad aged 18. He had had rheumatism several times and erythema nodosum once. He suffered from general anasarca, and had a loud mitral systolic bruit, irregular pulse, and large heart. He had slight pyrexia. The urine was of sp. gr. 1006, not albuminous. He died somewhat gradually, being sensible and speaking collectedly, when roused, to within a few hours of his death.

The right temporo-sphenoidal lobe of the brain was extensively softened and full of partially decolorized brown clot. The rest of the brain was healthy. The heart weighed twenty-three ounces, and the pericardium was adherent. The mitral valve was much diseased; long, tough, stalactitic vegetations hung from its edge, and some of its chordæ tendineæ ulcerated through. The left brachial artery was aneurismal at its bifurcation, and full of creamy pus; its walls were dilated, soft, and crowded with inflammatory cells. The spleen weighed 36 oz. and contained several infarctions. The kidneys weighed 16 oz. They were red and mottled. (Trans. Path. Soc. vol. xxviii. p. 106.)

Presented by Dr. Goodhart, 1877.

Thrombosis.

3796. Part of a circle of Willis, showing the basilar and the left posterior and middle cerebral arteries plugged with ante-mortem clot. The vessels are atheromatous, and the clotting had probably occurred *in situ*.

From a man 44 years old. He had never had any venereal disease. He was married and had two healthy children. Had been a hard drinker at one time, but not in his later years. He had been under treatment for rheumatism for some weeks, when he was suddenly seized with a fit. He was taken home, but soon recovered sufficiently to get up and go out. He was suddenly taken with another fit, accompanied with paralysis and aphasia, and was brought to the hospital. Subsequently he had a great deal of noisy delirium and died exhausted. The left side of the brain was extensively softened. The softening extended from about the centre of the centrum ovale backwards to the posterior part of the cerebrum, and in the region of the central convolutions it reached the base, so that the island of Reil and adjacent parts were in a pulpy condition. The posterior part of the left corpus striatum was slightly involved. The lung contained a patch which resembled an old embolus, and the liver had several scars on its surface, one large and with a centre of white cicatricial tissue. (MS. Notes, vol. ii. p. 64.)

Presented by Dr. Goodhart, 1873.

3796 A. The dura mater from the vertex of a skull with the sinuses laid open to expose a fibrinous, partly adherent and decolorized coagulum, which occupies the whole length of the superior longitudinal and right lateral sinuses.

Presented by Dr. Lediard, 1880.

Entozoa.

3797. An acephalocyst hydatid, about three inches in diameter, from a human brain.

From the Museum of Joshua Brookes, Esq.

3798. The cyst from which the preceding hydatid was removed. Its walls are moderately tough, and half a line in thickness; its interior is smooth and polished; its exterior is covered with fine flocculi, like delicate false membrane, by which it was adherent to the substance of the brain.

From the Museum of Joshua Brookes, Esq.

3799. Portion of cerebrum, containing a cyst about two inches in diameter. The wall of the cyst is from half a line to a line in thickness, of compact texture, and closely united to the cerebral substance; its interior is smooth, and is lined by a very thin flocculent membrane, of which a part is reflected. The cyst now contains no "daughter-cysts."

The nature and origin of the cyst are uncertain, but it is probable that the history of this preparation is referred to in a passage in the Lectures delivered, "chiefly from Mr. Hunter's Notes," by Sir Everard Home in 1794–5. "Hydatids form in the brain in the human subject. I never knew but one instance, but which is sufficient to show that they do form there. This occurred in a lady in London, who had violent and distressing headache, and this increased almost to madness. The pain came on periodically, so that the cause could not be made out, as the symptoms were not like those of depressed brain. She died, and on examining the brain an hydatid was found, of a globular shape, and of the size of a common orange."—*MS. Notes of the Lectures, by Mr. Clift.*

Hunterian.

3800. Part of the brain of a Sheep, in the substance of which there are a cavity containing an hydatid, and several smaller empty cavities. The texture of the brain adjacent to the cavities appears healthy. The vessels are injected.

Hunterian.

3801. A vertical antero-posterior section of the brain of a Sheep, exhibiting a cavity more than an inch in diameter between the cerebrum and cerebellum, in which an hydatid was contained. The wall of the cavity is formed by a very thin membrane; the adjacent parts of the brain are hollowed out and pressed aside, but their texture appears unaltered.

Hunterian.

3802. The brain of a Gazelle, with a hydatid-cyst occupying the hinder part of the right side of the cerebrum near the longitudinal fissure. The cyst, which has been laid open, shows numerous small sago-like grains attached in pedunculated groups to its inner surface.

Presented by the Zoological Society, 1874.

3803. The brain of a Sheep, with a large cyst in the right hemisphere of the cerebrum. The walls of the cyst, which contained an hydatid, are in part smooth and in part coarsely granulated; at its upper part the cerebral substance appears to have been completely removed, so that the cyst was here bounded by the pia mater alone. *Hunterian.*

3804. Part of the skull of a giddy Sheep, in which two large holes have been made by absorption consequent on the pressure of hydatids. The dura mater is adherent to the pericranium, and they together completely close the holes. *Hunterian.*

Conditions of the Brain of uncertain nature.

3805. "A section of a cerebellum, to show an uncommon appearance in the middle of the medullary substance, marked by a bristle" (*Hunterian MS. Catalogue*). The bristle is placed within the corpus dentatum, one margin of which is slightly raised.

The principal Specimens of Diseases of the Brain in other parts of the Museum may be found by reference to the Series of Diseases of the Membranes of the Brain, and to the following specimens:—573, 574, 1425, 1426, 1663, 3988, 3999, and 4006.

Series XLI. INJURIES AND DISEASES OF THE MEMBRANES OF THE BRAIN.

Injuries: 3806, 3807.
Effects of Trephining: 3808 to 3817.
Effusion of Blood: 3818 to 3824.
Laceration of Meningeal Artery: 3820.
Effects of Inflammation:—
Effusion of Lymph: 3807, 3808, 3811 to 3815, 3826.
Granulations: 3816, 3817.
False Membranes, Thickening and Pachymeningitis: 3822 to 3825, 3827 to 3832 B.
Hydrocephalus: 3833 to 3835 A.
Morbid Growths and Cysts: 3836 to 3866.
Cysts: 3836, 3843.
Cysts of Choroid Plexuses: 3837 to 3839.
Psammoma: 3839 to 3842.
Bone-like and Calcareous Formations: 3825, 3844 to 3855.
Sarcoma: 3860.
Secondary Cancer: 3864.
APPENDIX:
Hydrocephalic Skulls: 3867 to 3880.

Injuries and their Consequences.

3806. Part of the dura mater of a man who was accidentally shot through the head with an iron ramrod. The track of the wound is indicated by a bristle passed through the apertures.

"*The Case of a Man being Shot through the Head with an Iron Ramrod.*

"*November 5th*, 1783.—About half-past five in the evening Josh. Lengest, aged 25 years, was standing near a fire at Twickenham, when a musket was discharged at the distance of forty yards, in which happened to be the ramrod, which penetrated the posterior part of the right parietal bone, passing forwards obliquely through the brain, and came out on the opposite side through the squamous portion of the temporal bone and through the skin just behind the external angle of the left eye.

"Upon receiving the injury he fell, and the rod was pulled out by a by-stander with some difficulty. He was brought to St. George's Hospital in a post-chaise, and on his way thither complained of being sick. He had then lost the use of his right side,

and apparently of half his tongue; was perfectly sensible, but complained of some pain. His pulse, also, was rather full. He was bled, and had an opening clyster immediately.

"*November 6th.*—He had passed an uneasy night; was still sensible, but averse to speaking, probably because the least words were uttered with difficulty. His pulse was in the morning rather slow, but not full. He had three stools from the clyster. His urine came away involuntarily. The pupils of his eyes contracted on being exposed to the light.

"He was trepanned on the hind part of his head, and some pieces of bone were extracted from the brain. After the operation he lost about a pound of blood from the substance of the brain. His pulse sunk; he was very pale, appeared to be sensible, but spoke little. At eight o'clock in the evening his pulse was low, his breathing slow, and his inspirations deep. His countenance was pale, and he appeared very uneasy, continually moving his left side.

"*November 7th.*—After passing a very uneasy night, at seven in the morning he died, about two hours before which he moved both his right and left side much, as if in great pain. He appeared sensible, but was not capable of speaking.

"On opening the head and examining the passage of the ramrod, it was found to have passed through the posterior and upper part of the cerebrum, through the falx, then through the left hemisphere, just over the lateral sinus, and came out between the anterior and middle lobes.

"Inflammation had begun, for the uniting medium was deposited."—*Hunterian MS.: Cases and Dissections*, No. 29.

3807. Portion of dura mater, which was wounded by a small spicula driven through it from the os frontis. Lymph is deposited on both surfaces of the dura mater around the wound: and a collection of pus had formed between it and the pia mater. *From the Museum of George Langstaff, Esq.*

3808. Portion of dura mater, from a patient who died after being trepanned. The trepan cut almost a complete circle in the dura mater, and both around and within the wound the outer surface of the membrane is coated with lymph. On its inner surface, also, lymph is deposited in smaller quantity. There are small spicula of bone near the side of the longitudinal sinus. *Hunterian.*

3809. Portion of dura mater, on the external surface of which

lymph is abundantly deposited, especially on two circular spots over which the trepan was applied. Its inner surface is blood-stained. *Hunterian.*

3810. Another portion of the same dura mater. *Hunterian.*

3811. Portion of dura mater, on both surfaces of which lymph has been effused in the space exposed by the trepan, but not beyond it. *Hunterian.*

3812. Portion of dura mater, in which there are large apertures in two places which were exposed by trepanning. The exposed parts are thickly covered with lymph; the apertures appear to have been made with a knife. *Hunterian.*

3813. Portion of dura mater, on which, after the same operation, a much larger quantity of lymph, apparently mixed with blood, was effused on both surfaces. The circle over which the trepan was applied is here also marked by a larger effusion of lymph. *Hunterian.*

3814. Part of a dura mater, to the inner surface of which a thick uneven layer of coagulated blood and lymph is adherent. The dura mater was wounded in trephining; the part over which the trephine was applied is indicated externally by a circular deposit of lymph, with an aperture in the centre.

From the Museum of Sir A. P. Cooper.

3815. Part of a skull, from which a large portion was removed by several applications of the trephine. The exposed dura mater is nearly covered with granulations, and a thin layer of lymph is effused on its inner surface.

3816. Portion of the skull and dura mater of an Ass, which had been trepanned. Granulations have grown from the exposed surface of the dura mater, and completely fill up the aperture in the skull. At one part the granulations from the dura mater protruding from the skull have coalesced with those from the wounded integuments. *Hunterian.*

3817. The upper part of a dura mater, with three circular elevations of granulations grown up after trephining over the longitudinal sinus. Beneath one of them the sinus appears contracted nearly to obliteration.

Effusion of Blood.

3818. The base of a brain, with the great arteries irregularly dilated, thickened, and made rigid by deposits of fatty and earthy matter in their coats. Blood is effused extensively in the pia mater.

From the Museum of George Langstaff, Esq.

3819. Portion of dura mater, on the inner surface of which a large quantity of blood is effused, coagulated, and become firmly adherent.

From a boy 8 years old, whose right temporal and parietal bones were fractured by the kick of a horse. Fragments of the bone were driven through the dura mater into the brain. He lived ten hours after the injury.

From the Museum of George Langstaff, Esq.

3820. The calvarium and upper part of the brain, with a large clot of blood in the left temporo-parietal region, between the bone and the dura mater. The bleeding was due to a fracture of the base of the cranium with laceration of the middle meningeal artery.

From a man aged 26 who was knocked down and fell upon the back of his head against a stone. When admitted into the London Hospital he was in a state of partial insensibility; there were trifling hæmorrhage from the left ear, right hemiplegia, and slight paralysis of the right facial nerve. He lived seven days after the accident.

Presented by John Adams, Esq., 1869.

3821. The upper part of a cerebral hemisphere, with its membranes. A considerable quantity of blood has been effused in the arachnoid sac, and a thin, firm, and nearly smooth layer of coagulum is adherent to the inner surface of the dura mater. The vessels on the surface of the brain are

full of blood, and the substance of the brain itself appears to have contained more blood than is usual.

From a drunkard, 30 years old, who had delirium tremens. It was succeeded by symptoms of typhus, in which his furious delirium continued; and he died a week from the commencement of the attack. Besides the coagulated blood shown in the preparation, there was a considerable quantity still fluid.

From the Museum of George Langstaff, Esq.

3822. Portions of the upper part of the hemispheres of a cerebrum, with their investing membranes. The pia mater is generally thickened, indurated, and opaque. Between it and the dura mater, in the sac of the arachnoid, there is a thin, close-textured, white layer of false membrane, partly separated, on the right side, into two lamellæ. On the internal surface of the dura mater, partly decolorized coagula of blood are adherent in several places. It was supposed that the false membrane was formed from a layer of effused blood gradually decolorized and organized; but it may have been produced by granulations or buds springing from the inner surface of the dura mater, and of which the vessels, being embryonic and fragile, ruptured, and gave rise to ecchymoses or to more considerable hæmorrhages between the layers of false membrane.

From a man 70 years old, who had been subject to severe attacks of gout.

From the Museum of George Langstaff, Esq.

3823. Portion of dura mater, beneath which blood has been effused, and was enclosed in a sac, or double layer, of false membrane like that shown in the last specimen. The effusion of blood has taken place over corresponding parts of both cerebral hemispheres. The false membrane on the right side is reflected with the pia mater; and that on the left is partly separated to show the effused blood.

Hunterian.

3824. Another portion of the same dura mater, with blood

coagulated upon it and adhering to parts of both its surfaces.

The following is, most probably, an account of the first examination of these parts :—

"*The appearances upon opening Mr. Oswald.*

"On sawing through the skull, and then wounding the dura mater, a great deal of watery blood ran out at the groove. When the skull was removed, the dura mater appeared sound externally, but a good deal of blood oozed out of the vessels on its surface. The longitudinal sinus was full of blood. On raising the dura mater laterally towards the falx, we observed a great deal of extravasated blood, lying, to appearance, immediately between it and the pia mater, on the lateral and anterior parts of the two hemispheres on each side of the falx. On removing this blood, which was the coagulum of the whole of the extravasated blood, watery part having been discharged, we found on each side a loose membrane covering the pia mater, similar in substance to the chorion of the fœtus. One edge of this membrane attached itself all along the dura mater, where the veins of the pia mater enter this membrane. The posterior, outer, and anterior edge attached itself all round to the dura mater, where the upper part of the skull terminates in the basis. What is rather singular, there was a membrane very much of the same kind on both sides. The whole of the extravasated blood lying between the dura mater and this membrane, and by the edges of this membrane, adhering all round to the dura mater, those two made a complete bag, or bags, for the blood, so that the blood was not diffused over the pia mater.

"My idea of these appearances is this :—First, an inflammation had attacked the internal surface of the dura mater at these parts, which formed this coat or membrane upon its internal surface from an extravasation of the coagulable lymph, as we see often to be the case on all internal membranes that are inflamed. After this coat had been formed, an extravasation of blood came on the same surface of the dura mater, which removed the coat of coagulable lymph from its attachment to the dura mater in proportion to the quantity extravasated, so that the blood was always retained between the dura mater and this coat.

"The upper, and especially the anterior, parts of the two hemispheres were very much compressed by this extravasated blood, so that the brain was much too small for the cavity of the skull. The pia mater seemed everywhere sound. On examining the substance of the brain, I thought it was rather tougher than common, but not harder. There was more water in the lateral ventricles than common at his age. The septum lucidum was broader than usual, owing to the increase of water. It was torn in many places, and these had rounded edges, which showed the lacerations to have been of some standing, for no particular violence had been used in any part of the examination; what

remained was very thin, but strong, and would not tear, as usual, upon raising the corpus callosum.

"Some small stony concretions on the upper part of the pineal gland. Some small hydatids in the plexus choroides. A small stone in the gall-bladder."—*Hunterian MS.: Dissections of Morbid Bodies*, p. 226.

Effects of Inflammation.

3825. A portion of pia mater, the centre of which is indurated and has osseous matter deposited in it.

"*Apoplexy.*

"Mr. William Sharp, engineer, aged about 65 years, strong and muscular, of a full habit, and short-necked, was seized about seven years ago with a fit, which produced a hemiplegia. Before this attack he was drowsy for some days, sometimes so giddy as to be obliged to hold by something, but did not lose his senses; but lost the use of his left side.

"In the beginning of the winter, 1782, he had a second attack. In this second attack he had a pain in the fore part of his head over the eyes, was drowsy from the Saturday till the Tuesday following, and when at dinner on Tuesday he often let the fork fall out of his hand and would pick it up again, like Mr. Foote. When going up stairs to bed he could hardly walk, and was obliged to be supported, but did not lose his senses; was put to bed; and in the morning had lost his speech and the use of the voluntary actions of the left side, but not of the involuntary.

"He did not lose the sensation of the skin, although he did not know when he made water or went to stool. Has a pain across the shoulders. The arm is worse than the leg; he can move the hip-joint a little, and has more sensation in the extremity. The muscles of the thigh have an involuntary action, for the extension will contract and straighten the leg, like the action arising from the stimulus of death, and it requires some force to bend it. Has a pricking pain in that extremity down to the toe; often it is pretty severe. The hand and foot a little œdematous."—*Hunterian MS.: Cases in Surgery*, p. 58.

"*The appearances on observing the Brain of Mr. Sharp, in the Minories.*

"On removing the dura mater, the brain was at once observed to be very flabby, for it hung backwards. On the right side, just above where the skull was sawed through, there appeared a bag of water, near three inches in diameter, which did not seem to be on the surface, but appeared to be sunk into the substance of the brain.

"This collection of water, although circumscribed as to extent,

yet did not appear as if in a circumscribed bag, but rather appeared like œdema.

"I next cut through the corpus callosum into the right ventricle, and let out the water, which might be near two ounces. I then took out nearly the whole of that hemisphere, but in doing this the water immediately escaped, which proved that it was contained in large cells that communicated freely with one another. On examining this part I found a deep sulcus in the cerebrum, which went so deep as to have only a thin partition of medullary substance between it and the right ventricle, which partition was become much firmer than medullary substance in common, and it seemed to follow the track of the arteries that pass into this part of the brain between the anterior and middle lobes of the cerebrum.

"As this space in the brain extended outwards, it rather widened. Along that surface which I have called the septum, between this cavity or chasm and the ventricle, this membranous or cellular part seemed to be formed into a more solid mass, as if puckered into a kind of cicatrix.

"The brain surrounding this cavity was rather of a yellowish-brown colour. These appearances were very similar to Mr. Home's, but there appeared here more mischief as to the part of the brain in which it was, but less respecting the probable communication with the ventricles, in Mr. Home.

"The other parts of the brain appeared to be otherwise sound than the softness of their texture. Every part had the same soft pulpiness that we find in the new-born subject."—*Hunterian MS.: Cases and Dissections*, No. 26.

Hunterian.

3826. Portion of dura mater, from the left lobe of a cerebellum. It is generally thickened, and a layer of lymph adheres to a large portion of its inner surface. The left lateral sinus is laid open, and has lymph within it.

From the Museum of George Langstaff, Esq.

3827. Portion of dura mater, on the inner surface of which is a thin layer of false membrane, firm, continuous, uniform, and somewhat flocculent and reticular on its free surface.

From the Museum of Sir A. P. Cooper.

3828. Portion of the dura mater of a man who was many years deranged. Shreds of false membrane are attached to many parts of its internal surface, especially in the neighbourhood of the falx. *Presented by Sir William Lawrence.*

3829. A portion of cerebrum, with the membranes covering it. The dura mater is more than a line in thickness, and closely united with the pia mater. The inner surface of a separate piece of dura mater appears to be thickly covered with lymph over an imperfectly circumscribed space.

From the Museum of George Langstaff, Esq.

3830. Portions of brain and pia mater. The substance of the brain was, in the recent state, unusually firm ; and the pia mater is thickened and opaque.

From the Museum of George Langstaff, Esq.

3831. Portion of pia mater, thickened, opaque, of a dull yellowish-white colour, and, in parts, of granular appearance.

From a patient 66 years old, who long had hemiplegia. All the pia mater was thus diseased, and lymph was effused in the arachnoid sac.

From the same Museum.

3831 A. The arachnoid and pia mater removed from the vertex of one of the hemispheres of the brain, exhibiting the condition of the membranes known as pachymeningitis. They are much thickened and opaque from inflammatory effusion, and are firmly adherent to each other.

Presented by Charles Stewart, Esq., 1882.

3832. A cerebellum, of which the pia mater is thickened and opaque.

From a lad who had disease of the internal ear.

From the Museum of George Langstaff, Esq.

3832 A. A portion of pia mater, on the internal surface of which is attached a broad flat mass of firm and pale substance, probably the result of chronic pachymeningitis, possibly syphilitic. On the corresponding external surface there are numerous small white papillary or wart-like vegetations

which are of a fibrous structure and spring from the Pacchionian bodies.

The patient, a woman 74 years old, was hemiplegic for many years. A few days before her death she became suddenly and deeply comatose. A large quantity of fluid was found both in the cerebral ventricles and in the tissue of the pia mater; the latter, also, was generally thickened, and had many groups of small growths on different parts of its surface. The arteries of the brain were thickened and rigid, and its substance was unusually firm.

From the Museum of George Langstaff, Esq.

3832 B. A portion of the membranes from the convexity of a brain. The dura mater is studded with small points like miliary tubercles; but on microscopic examination, they were found to be composed of fibrous tissue. They are chiefly distributed along the course of blood-vessels and near the involutions of the pia mater. Numerous papillary projections of fibrous tissue spring from the surface of the dura mater in the position of the Pacchionian bodies.

Presented by Charles Stewart, Esq., 1884.

Hydrocephalus or Ventricular Dropsy.

3833. Part of a brain, including the greater portion of the cerebral hemispheres and the septum lucidum, from a child who died with hydrocephalus.

"A child, when about 3 months old, had an evident enlargement take place in the size of its head, which continued increasing for three years, when it seemed to become stationary, after which it became more and more ossified till six years old, when the skull, except for a considerable irregular space at the fontanelle, and a small place between the ossa frontis, was in a great measure made up of bone: at which time it died.

"It seemed to have its senses tolerably well for the first three years, after which it became less sensible, did not see at all, heard sounds, and seemed to know what it did, till a very little time before its death.

"The child was three feet three inches long; round the head was twenty-seven inches and a half; over the head, from ear to ear, eighteen inches. It had cut all its teeth. The body was exceedingly emaciated; the breadth of the head was exactly the same as the shoulders.

"Upon sawing the skull the water was evacuated, which, when collected, measured six pints and a half, alehouse measure. The ventricles were excessively enlarged; their lining was either become tough and ligamentous, or rendered so by an exudation of coagulable lymph, and the brain covering them was very thin, and in some places only a membrane, and there the dura and pia mater adhered together. The convolutions of the brain and pia mater seemed to be opened out, and the processes of the ventricles were continued on to the pia mater. This fissure between the two hemispheres was also opened out, by the falx at that part being almost wanting, and the corpus callosum being pushed up to the skull. On the right side, on which the child principally lay, there was no substance of brain between the ventricles and skull; only a membrane; but on the left side nearly, in some places, half an inch thick, and both medullary and cortical with the natural appearance.

"The septum lucidum was elongated into a broad membrane, and was separated into two lamellæ by the water in the third ventricle pushing up between the two sides of the body and crura of the fornix, and dividing it as well as the septum. The lamellæ were not perfect, having several holes in them, making a communication with the cavity between them and the lateral ventricles.

"The corpora striata and thalami nervorum opticorum appeared very small, and to have lost their natural texture, becoming tough and ligamentous, as also their union, which, being elongated, looked like a broad flat ligament. The commissures had nearly their natural appearance, as also the infundibulum, where it goes down to the pituitary gland, but above that part was considerably enlarged. The pituitary gland flat, but natural. There was no substance of brain over the sella turcica, only a membrane in appearance.

"The fourth ventricle was natural, but lined with a layer of coagulable lymph. The first pair of nerves tough, yellow, and small, instead of being made up of medullary substance. The second pair, dark coloured, thin, and membranous, without the least medullary pulp. The other nerves [had] nothing particular in their appearance. Cerebellum tolerably natural; the pia mater little vascular, or more gelatinous than membranous, and yellow. The whole brain weighed thirty-six ounces and a quarter. The medulla spinalis yellow."—*Hunterian MS.: Cases and Dissections*, No. 9.

Hunterian.

3834. A brain, in the lateral ventricles of which there were between five and six pints of fluid. The cerebrum is enlarged to nearly a yard in circumference. Its convolutions are flattened, but both their tissue and that of the pia mater appear healthy. The corpus callosum, raised upwards so as

to be nearly on a level with the upper surfaces of the cerebral hemispheres, has been divided longitudinally to expose the cavities of the ventricles.

From the Museum of John Howship, Esq.

3835. The brain of a child, who died seven days after birth. It was expanded by the accumulation of nearly two pints of fluid in the ventricles. Its convolutions are small, closely compact, and rather flattened. The lining of the lateral ventricles appears indurated, and separable in a distinct layer from the adjacent substance.

The child had also spina bifida in the lumbar and sacral regions. All its tissues were exceedingly œdematous, so that its limbs could hardly be moved, and it showed scarcely any other sign of life than an occasional opening of its mouth.

From the Museum of George Langstaff, Esq.

3835 A. The left half of the base of a child's brain affected with chronic hydrocephalus. The lateral ventricle, especially its cornua, is much dilated, and communicates by a wide orifice with the dilated third ventricle. The fourth ventricle is also much dilated, chiefly by an expansion of that portion of the cerebellum which forms its roof. These changes were probably the result of basal meningitis, leading to adhesions of the membranes at the base of the skull, and to obliteration of the communications between the ventricular cavities, and the subarachnoid space of the cord.

Presented by Dr. Goodhart, 1883.

3835 B. The brain of a Monkey with dilatation of the lateral ventricles. The dilatation chiefly affects the posterior cornua in such a manner that the posterior lobes are converted into two thin-walled cysts. There are neither appearances indicating basi-meningitis, nor any adhesions about the foramen of Bichat.

Presented by the Zoological Society, 1884.

3835 c. Half of the cerebellum of a child, showing, in a vertical section, an extreme degree of dilatation of the fourth ventricle.

From a case of chronic hydrocephalus due to chronic basi-meningitis. The lateral ventricles were much dilated.

Presented by Dr. Goodhart, 1884.

Cysts and Morbid Growths in or involving the Cerebral Membranes.

3836. Portion of dura mater, with three thickly walled but transparent cysts, full of clear fluid, attached to one of the sides of the falx, and to the adjacent surface of the dura mater covering the cerebrum. The largest of the cysts is about three quarters of an inch in diameter.

Presented by Sir William Lawrence.

3837. The left hemisphere of a cerebrum, at the outer side of which, over the anterior and middle lobes, there is a cavity or sac between the arachnoid and pia mater, which was filled with a serous fluid. The cavity measures four inches from above downwards, two and a half from before backwards, and nearly two inches in depth. It appears to have been enclosed by the membranes, and to have no proper membranous walls; the brain beneath it is deeply pressed-in, and its convolutions are expanded and flattened, but their tissue, as well as that of the pia mater which covers them, appears healthy; there is no appearance of atrophy or of a cicatrix of the brain. (The smaller cavity behind the one just described was made after the removal of the brain.)

From a woman who died of typhus fever, without any peculiar cerebral symptoms.

Presented by Sir Richard Owen.

3838. A choroid plexus, to which is attached a small spherical cyst filled with a soft yellowish substance mixed with granules of earthy matter.

Presented by William Norris, Esq.

3839. Specimens of choroid plexuses, on which there are several small firm tumours and transparent cysts.

From the Museum of George Langstaff, Esq.

3840. The choroid plexus of one of the lateral ventricles of a brain showing a cystic condition of its fringes. The cysts contain a granular fatty matter. The brain was quite healthy in other respects.

From a man brought dead into Guy's Hospital. An aortic aneurism had ruptured into the trachea. No history could be obtained.

Presented by Dr. Goodhart, 1872.

3841. The choroid plexuses of a man 25 years old, in each of which there is a tumour, of a pale yellow colour, soft, and about a quarter of an inch in diameter.

They did not produce any sign of disease.

Presented by Joseph Swan, Esq.

3842. A choroid plexus, in which there is a small firm tumour, like that last described. *Hunterian.*

3843. A choroid plexus, dried, in which there are numerous minute deposits of earthy matter.

From an old man, in whom the large arteries of the brain were generally calcified.

From the Museum of George Langstaff, Esq.

3844. Portion of dura mater, to the outer surface of which, near the longitudinal sinus, a small plate of bone is loosely adherent by a thin layer of tissue like false membrane.

Hunterian.

3845. Portions of dura mater and pia mater, between which thin cord-like adhesions have formed on corresponding parts on each side near the falx cerebri. Immediately beneath the adhesions thin fasciculated plates of bone are formed in the thickened tissue of the cerebral arachnoid membrane.

Hunterian.

3846. Portion of pia mater, thickened and opaque, and having on its outer surface, imbedded in the arachnoid, a thin uneven plate of bone. Small granular masses of bone have also formed in the substance of the pia mater, and in its fold-like prolongations between the convolutions of the brain. The (single) vertebral and basilar artery is thickened, and has earthy matter deposited in its coats.

"*Winter*, 1764–5.—I dissected an old man. He was pretty fat, and the muscles red. I found almost all the arteries in his body ossified; the internal carotid and basilary arteries were almost one bone. Those on the pia mater were ossified in a vast number of places. The tomentum cerebri was ossified in many places. There was but one vertebral artery in this subject. This man had had a bubonocele, which had closed at the abdomen by a very thin, but pretty firm, union."—*Hunterian MS. Dissections of Morbid Bodies*, p. 158, No. 93.

Hunterian.

3847. Portion of dura mater, with a large, flat, limpet-shaped mass of hard bone, coarsely knotted and granulated, attached by a small part of one surface to the arachnoid surface of the falx cerebri.

The patient, a man 60 years old, had for several months before his death complained of pain in the head and giddiness. His mental powers had been considerable, and were highly educated; but they were much impaired by drunkenness. He died suddenly. The membranes near the morbid deposit appeared inflamed and thickened, and there was a large quantity of fluid in both the membranes and the ventricles of the brain.

From the Museum of George Langstaff, Esq.

3848. A similar specimen. *Hunterian.*

3849. The falx cerebri of Mr. William Cruikshank, on each side of which, at its anterior part, there is a large, flat, limpet-shaped mass of bone.

Presented by Honoratus Leigh Thomas, Esq.

3850. A similar specimen.

The following account of the two preceding cases is from "The Hunterian Oration," delivered in 1827, by Mr. Thomas:—

"The immediate cause of Mr. Cruikshank's death was apoplexy, which he had always foretold would terminate his existence. He

was led to prognosticate this event from the circumstance that whenever he stooped forward, or, in short, when from any cause the free return of the blood from the head was interrupted, he was conscious of a peculiar thrilling sensation in the superior surface of the left hemisphere of the brain; and at this point it was found, upon examination after death, the mischief had actually taken place. This portion of the brain had the appearance of having been torn, and the effusion of blood in the surrounding parts was very considerable. There were no other marks of disease within the cranium, excepting a deposit of osseous matter adhering to the falciform process of the dura mater.

"He also laboured under many other symptoms, denoting cerebral disturbance; and, as these bore so strong a resemblance to a similar case in a near relation of his own, I am induced to enumerate a few of the most important, and to elucidate the subject, as far as the evidence of two cases will admit, occurring at the same time, and which were repeatedly and most carefully investigated.

"As friends they were almost in the daily habits of communicating with each other, and their similar distressing sensations were, as may be imagined, the frequent topic of conversation. They were both men of lively imagination and quick parts; their habits of life had been so far similar that the mind had been actively employed in both, though in very different situations.

"They were each subject to an entire loss of memory, which occasionally occurred in the midst of the most animated conversation, as well as when the mind was in a state of quietude. This suspension of intellect was merely transient, and its restoration was equally sudden. The sense of smelling was also very obtuse; commonly the strongest volatiles would scarcely affect the organ, yet whenever any circumstance occurred to excite painful emotions in the mind, they were liable to be assailed with, and suffered the most poignant distress from, the sensible impression of odours, which they invariably described as horribly offensive. Indeed, the pallid face and hurried state of the whole system very clearly denoted the intensity of their sufferings.

"They were subject to frequent and violent fits of sneezing, and Mr. Cruikshank often remarked that the organ of smell must have numerous unknown nerves in its composition to explain the complexity of his feelings.

"A very short time only intervened between the decease of these relatives; similar in their death, as in the precursive symptoms. Mr. Cruikshank was the survivor, and investigated with careful and deep attention the state of parts within the cranium. Here blood was found effused to a considerable extent in the left hemisphere, and a bony deposit was attached to the anterior portion of the falciform process.

"The resemblance in each case was very remarkable, but in neither did the most careful examination detect the slightest alteration in the natural and healthy appearance of the structure of the olfactory nerve."

3851. A portion of dura mater, with the falx cerebri. Several portions of bone, having an unusually fibrous or fasciculated and pointed form, are attached to the arachnoid surface of the dura mater, near the margins of the falx.

From the Museum of Sir A. P. Cooper.

3852. A similar specimen, dried. *Hunterian.*

3853. A portion of the cerebral dura mater dried, with some bony tumours projecting from the arachnoid surface. They are mostly in the region of the parietal bone and along the longitudinal sinus, though the nodule is seen low down on the falx. They have the appearance of having attained to their present size by the clustering and fusion of many smaller tubercles, as if they had some relation to the Pacchionian bodies often found in the same region.

From a man aged 28. Between his twelfth and fourteenth years he suffered from frequent attacks of epilepsy, sometimes daily, but seldom with more than two days' interval. After fifteen years of age the fits became less frequent but more severe; latterly he had only had them about once a year. They usually occurred at night during sleep, and he fell out of bed each time. It was after one of his usual attacks that he was found dead.

Presented by W. E. Lee, Esq., 1870.

3854. The dura mater of an old man, containing numerous large, flat, osseous plates, which are symmetrically placed. The walls of the superior longitudinal sinus are thickly studded with calcareous matter.

Presented by Sir Stephen L. Hammick.

3855. The bones forming the right side of the posterior fossa of the base of a skull. Upon the inner surface of the dura mater, and overlying the course of the lateral sinus from the jugular foramen for nearly two inches, is a thick mass of indistinctly fibrous material, which in parts was gritty or calcareous. The surface of the mass was adherent to the right lobe of the cerebellum. The

lateral sinus was patent, and the ear showed nothing abnormal.

Under the microscope the growth consisted of an indistinct granular material, in which numerous indifferent or inflammatory cells were visible, with, in some parts, a reticulum composed of delicate bands of homogeneous connective-tissue-substance. The microscopic appearances indicated that it was probably a tubercular formation.

From a lad, aged 15, who had complained of pain at the back of the head for eight or ten years before his death. His father died of phthisis, and several brothers and sisters of convulsions in infancy. When he came under observation there were symptoms of acute meningitis, of which he died in ten days. (See Trans. Path. Soc. vol. xxxiii. p. 282, 1882.)

Presented by Dr. Lediard.

3856. Portion of dura mater, on the inner surface of which there is a circular flattened tumour, nearly an inch in diameter, and half an inch in depth. It appears to be composed of a firm medullary substance, traversed by tough white fibres, which have a close reticular arrangement, and give it considerable compactness and toughness of texture.

Hunterian.

3857. Portion of dura mater, with sections of a firm medullary tumour, of an oval form, and nearly two inches in its chief diameter, which is attached to the lower margin of the falx cerebri. It has the same general characters as that last described, with an obscure appearance of fibres radiating towards its circumference. *Hunterian.*

3858. A portion of dura mater, on the internal surface of which there are several small fibrous tumours. The largest is nearly spherical, and half an inch in diameter; its surface is smooth, and its substance is very firm, compact, and obscurely fibrous. The others are smaller, flat or lens-shaped, and project but little from the surface of the membrane.

From a lady who was accidentally killed.

Presented by Sir Everard Home.

3859. A small, globular, fibrous tumour, about a quarter of an inch in diameter, growing upon the internal surface of the dura mater covering the anterior face of the petrous portion of the right temporal bone.

3860. Part of a dura mater, with a large tumour attached to the middle of the lower margin of the falx, and projecting on both sides of it. The tumour has a close resemblance to that in No. 3858. It is irregularly oval, and deeply nodulated; two inches in its chief diameter, and flattened laterally. Its substance is firm and compact; and its surface in parts closely adherent to the brain.

The patient, a man 59 years old, had a tumour removed from the integuments over the angle of his jaw three years before his death. At that time he used to suffer from severe pain of the head; but this became less after the operation. In the next year he had severe and obstinate pain like sciatica, and after this, stunning pain of the head, paralysis of the left eye-lid, and impaired vision. He became gradually emaciated, and had tremblings of the limbs; but his mental faculties were only disturbed by occasional delirium towards the close of life. In the last three days he was comatose.

From the Museum of John Howship, Esq.

3861. Part of the brain of the same patient. Its substance is very extensively destroyed, as if by ulceration, in the parts which were adjacent to the tumour, and the internal walls of the lateral ventricles are broken-through. A small tumour, of the same kind as that last described, is imbedded in the lower part of the left middle lobe of the cerebrum; it adhered to the dura mater, and had produced absorption of the corresponding part of the sphenoid bone.

From the Museum of John Howship, Esq.

3862. Portion of dura mater, from the anterior part of the right cerebral hemisphere, on the inner surface of which there is a mass of firm nodulated substance, two and a half inches in diameter, and, in parts, half an inch in depth. The inferior surface of the growth, which appears similar to those last described, is covered by the pia mater, which it

has pressed inwards upon the brain; the dura mater to which it is attached is not altered in texture, but appears to have been firmly adherent to the skull.

From a middle-aged man, whose intellect was deranged for a long time before his death. He often complained of severe pain in the head near the diseased part, and died suddenly. His other organs were healthy.

From the Museum of George Langstaff, Esq.

3863. The base of a skull, in which a tumour of a nearly oval form, two and a half inches in its longitudinal, and one and a half in its transverse diameter, and an inch in depth, is attached by a narrow base to the dura mater covering the posterior and inner part of the right petrous bone. The tumour is composed of a firm, pale, "caseous" substance, and is invested with a tough thin membrane. Looking vertically upon it, it completely conceals the foramen magnum, and fills nearly half the right posterior fossa of the base of the skull. The bone beneath, and for a considerable distance in front of the tumour, is superficially ulcerated.

The patient was a woman 32 years old when she was admitted into the workhouse of St. Leonard's, Shoreditch. Four years previously she received a severe blow behind the right ear, which stunned her for several minutes, and from this time she had never been free from uneasy sensations about the head, and occasionally severe headache, which was relieved by nothing but blood-letting. She became also depressed in spirits, and sometimes had sudden attacks of giddiness, in which she was obliged to hold on something lest she should fall. These symptoms increased, and at length she felt occasional weakness and numbness of the right arm and leg, which after some time becoming constant, she was unable to help herself, and was brought to the workhouse. At this time the loss of voluntary power over the right leg and arm was almost complete. She complained, also, of numbness of that side of the body, but more particularly of numbness of the right side of the face, which she would often rub with great violence with her left hand. The mouth was drawn to the left side, and the speech was slightly impaired. The right eye was motionless, and it appeared smaller and more deeply sunk in the orbit than the left; its pupil was dilated and scarcely affected by light, and the right upper eyelid was lower than the left. By the loss of the consentaneous movements of the eyes her sight was affected, so that, except when looking straight forwards at a distant object,

her vision was confused, and she had acquired the habit of closing the right eye with her left hand when she wished to see anything distinctly. Her mental faculties were little, if at all, impaired. For a time local bleeding and counter-irritation seemed to be beneficial, but after ten weeks' residence in the workhouse the patient was seized with a severe epileptic paroxysm, became quite insensible, and was violently convulsed on the left side. After being freely bled she recovered from this state, but had now completely lost both sight and hearing, and was more entirely paralyzed on the right side. Her mental faculties, however, still remained good. A fortnight afterwards she had a second epileptic seizure, which was fatal.

In the examination after death fluid was found in all the tissue of the pia mater, and its vessels were nearly empty. The substance of the brain was pale; its ventricles contained between six and seven ounces of fluid. The olfactory and optic nerves, and all those on the left side of the brain, appeared healthy; but the third and all the following nerves of the right side had a dusky red colour, from fulness of the vessels of their neurilemma. The right side of the tentorium cerebelli was much elevated. The tumour was very deeply imbedded in, but not adherent to, the right lobe of the cerebellum; it was loosely attached to the bone and dura mater, and pressed considerably upon the right side of the pons and medulla oblongata, the adjacent substance of which, as well as of the cerebellum, had a dusky red hue. The trunk of the facial and auditory nerves of the left [? right] side could not be found; they were more than any others implicated by the tumour.

Presented by J. W. H. Parkinson, Esq.

3864. Portions of skull and of dura mater, from a lady who died with cancer. On the inner surface of the dura mater, near the falx, there are two small, round, smooth tumours, composed of a firm pale substance. On its external surface there is a large flat growth of apparently similar substance, nearly two inches in breadth, and about a line in thickness. The internal surface of the skull, corresponding with this last growth, is roughened, and exhibits numerous deep impressions, in which the growth lay imbedded; and on its external surface, through nearly the same extent, there is a similar change, in consequence of a growth of the same kind on the internal surface of the pericranium.

The patient had hard cancer of both breasts. The left breast became thus diseased about two years and a half before her death; the right breast about a year before. While the disease in both breasts seemed making progress, they "suddenly grew easier, and

she was attacked with violent headaches, and, as these increased in degree, the breasts became less in size and much unloaded of their general swelling, though the principal scirrhous tumours still remained in them. The pains in the head became extremely violent, and a tumour appeared in the cranium. She fell into a comatose state and died."

From a paper in the Minutes of the Board of Curators, presented with the specimen, by William Long, Esq.

3865. Portion of dura mater, on the outer surface of which there is an extensive thin growth of a substance, apparently similar to that on the outer surface of the dura mater in the last preparation, but, at first sight, looking like a layer of granulations. On the inner surface, also, there is a similar, but much smaller, growth, and the corresponding parts of the pia mater and brain are adherent. *Hunterian.*

3866. Portion of dura mater, on the outer surface of which there are several large, irregular, nodulated, and flattened masses of an obscurely fibrous and probably cancerous substance. Similar, but smaller, masses have been also formed upon its inner surface. *Hunterian.*

The principal specimens of Injuries and Diseases of the Membranes of the Brain in other parts of the Museum may be found by reference to the Series of General Pathology and of Diseases of the Brain.

APPENDIX.

Conditions of the Skull accompanying and consequent on Hydrocephalus : 3867 *to* 3880.

3867. The upper part of the skull of a child, eleven years old, who died with acute hydrocephalus, after all the sutures were nearly closed. On the right side the coronal suture is a very little open, and the dentations of the margins of the bones are elongated. The skull is very thin, and its in-

ternal surface is so deeply impressed by the cerebral convolutions that it is in some situations nearly perforated.

Presented by Edmund Sheffield, Esq.

3868. The cranium of an hydrocephalic child. The parietal bones are enlarged, as are also those parts of the frontal and occipital which form portions of the vault of the skull. The two lateral portions of the frontal are not united, except at their lower part; but on the right side the frontal and parietal bones are united, and there is scarcely a trace of coronal suture at their junction. At the situation of the sagittal suture, and at the left half of the coronal, the bones are wide apart: at the other sutures there is no separation.

Hunterian.

3869. The skull of an hydrocephalic child. The bones forming the vault of the skull are enlarged and widely separated. There are numerous small isolated bones (ossa Wormiana) in the course of the usual situation of the sagittal and lambdoidal sutures, and one of very large size near the posterior and inferior angle of the right parietal bone. The cranial is not united to the basilar portion of the occipital bone. Neither the basilar portion of the occipital bone nor any part of the temporal bones is enlarged. The whole length of the frontal suture is open. *Hunterian.*

3870. The upper part of the skull of an hydrocephalic child, with all the sutures widely open and numerous apertures in the parietal bones where the ossification has not kept pace with the expansion of the head. There is a small aperture also in each half of the frontal bone. The arrangement of nearly all these apertures is symmetrical. *Hunterian.*

3870 A. A similar specimen.

Presented by Joseph Hodgson, Esq., 1870.

3871. The upper part of an hydrocephalic skull, with enlarge-

ment of all the bones, elongation of the processes for the formation of the sutures at their margins, and rows of isolated bones in the unclosed sagittal and coronal sutures.

3872. The upper part of an hydrocephalic skull, in which nearly all the enlargement is obtained by an increase of size of the bones and of the anterior fontanelle. The sagittal suture and the lower parts of the coronal suture are united.

3873. A similar specimen, with the addition of numerous large apertures in the parietal bones, and a few of smaller size in the frontal.

3874. A similar specimen, with much greater enlargement, and more irregular ossification of the several bones. The left parietal bone has grown at one part rather beyond the median line, but the right parietal has not approached within two inches of it. *Hunterian.*

3875. A similar but yet larger specimen, with large and less symmetrical apertures in all the bones. The margins of the several bones have grown towards the vault of the skull without any regularity, and are bounded by numerous detached small Wormian bones. *Hunterian.*

3876. Part of the skull of an hydrocephalic child. The plan and progress of ossification and the manner in which the bones are united are exceedingly irregular. All the bones are very large, and the parts at which they are not united are near the ordinary situations of the parietal bones, where (the soft parts having been completely removed) there are two large deficiencies in the skull, each nearly six inches long and four inches wide. The parietal bones themselves are pressed backwards and downwards: they are strangely misshapen, and are united with the frontal, temporal, and occipital, and with bone developed along the median line, so that there is hardly any trace of suture among them.

Along the whole of the middle line of the vault of the skull the ossification has been carried to excess. There passes in that line, from the lower part of the frontal bone, between its two lateral and widely separated halves, to the upper part of the occipital bone, an arch of bone, an inch and a half wide, and, in the situation of the attachment of the falx, nearly three quarters of an inch thick. The lateral portions of the frontal bone are very widely separated, leaving a broad vacant space in the middle line ; and they appear to have completely united with the malar bones and the great alæ of the sphenoid, the orbits being pushed far outwards and downwards : but it is, perhaps, impossible to say of what bones the parts of the skull here situated within the zygomata are composed. Apparently in consequence of the pressure of the sides of the skull outwards and downwards, the zygomatic process of the left temporal bone is flattened out into a thin plate, half an inch in width. (On the right side the corresponding process is broken off.) There must have been a considerable enlargement of the base, as well as of the vault, of the skull, for the glenoid cavities are five inches apart. *Hunterian.*

3877. A skull from Otaheite, enlarged in consequence of hydrocephalus. It measures twenty-five inches in circumference transversely, eighteen inches over the vertex from one meatus auditorius externus to the other, and twenty-one inches from the nasal spine of the frontal bone over the vertex and occiput to the foramen magnum. Its ossification is complete, and all the sutures are closed. A row of Wormian bones is placed, with a nearly symmetrical arrangement, in the lambdoidal suture : there are a few in the squamous sutures, and one symmetrically placed on each side in the coronal suture ; but none of them are of large size. The forehead, occiput, and parietal protuberances are prominent. The face is of ordinary size ; the orbits are small.

By the state of the teeth, the patient may be judged to have been between 15 and 20 years old.

From the Museum of John Taunton, Esq.

3878. The skeleton of a man, who died with hydrocephalus at the age of twenty-five years. The skull, though enormously enlarged, is completely ossified. Its greatest horizontal circumference is thirty-six inches; from the nasal spine, over the vertex in the median line to the border of the foramen magnum, it measures twenty-eight inches; and from one meatus auditorius externus to the other, transversely over the vertex, twenty-eight inches. From the nasal to the coronal suture is eight inches and a quarter; and the diagonal of the right parietal bone is ten inches and a half.

The skull is not enlarged regularly: there are unnatural prominences at the upper and back part of the left parietal bone, and at the lower and fore part of the right parietal, giving the whole skull an oblique unsymmetrical form. Besides the enlargement of the frontal and parietal bones, by which the greater part of the enlarged cranial cavity is formed, rows of Wormian bones, from an inch to four inches and a half in breadth, are placed in the whole course of the lambdoidal and sagittal sutures, and in great part of the length of the squamous sutures. In the lambdoidal suture numerous small bones make up the row: in the sagittal suture, even at the widest part, the bones are single. All these Wormian bones are united together, and to the margins of the adjacent bones; and at the anterior part of the sagittal suture their union is so close that the line of suture can hardly be discerned.

There is scarcely any enlargement of the base of the skull; it measures, from one meatus auditorius externus to the other, four inches and two thirds. The squamous portions of the temporal bones, and the ascending portion of the occipital bone, are slightly enlarged, though they are as thin as the parietal and frontal.

The bones of the face are large and thin, and it is of unnatural width (measuring five inches between the outer margins of the orbits), in consequence of the malar and inferior maxillary bones being carried outwards with the temporal bones. The ramus of the inferior maxillary bone is especially carried outwards on the right side, in consequence of the great prominence already mentioned of the

adjacent parts of the right parietal and temporal bones. The apertures of the orbits are very large, but their cavities are shallow. The teeth are large and well arranged.

All the bones of the trunk and limbs are very light. In the dorsal region the spine is curved sharply towards the right side : it is less curved in the opposite direction in the lumbar region, in which also the bodies of the vertebræ are turned towards the left side, so that both they and the pelvis look obliquely outwards. The chest is contracted on the right side, and in a corresponding degree enlarged on the left side. The pelvis is similarly distorted : its antero-posterior axis, like that of the chest, is very oblique, and the right os innominatum is higher and smaller than the left. The right shoulder is elevated by the distortion of the spine. All the bones of the upper extremity are remarkably light and slender, but they are of the ordinary length and form. The bones of the lower extremities are in the same state, or even more atrophied. The circumference of the largest part of the femur is two inches and one line, that of the tibia one inch and two thirds. The left femur was occasionally dislocated, and its head, which rested in a shallow cavity on the os pubis, directly in front of the anterior superior spine of the ilium, is irregularly flattened and ulcerated at its posterior part. The right femur also was occasionally dislocated on the dorsum of the ilium, where a similar depression exists at the part on which it rested. The lesser trochanters and the lineæ asperæ are unnaturally prominent. The shafts of the thigh-bones are turned obliquely to the left side ; the knees are flexed. Near the left ankle-joint a thin plate of bone extends between the adjacent margins of the tibia and fibula. The left foot is unnaturally arched and turned outwards.

From the Museum of Robert Liston, Esq.

3879. The skeleton of a boy, 12 years old, showing effects of hydrocephalus and rickets. The skull is of almost globular form, and nearly symmetrical. It measures, in its transverse circumference, thirty-one inches ; from one meatus auditorius externus to the other, over the vertex, twenty-

seven inches; and from the nasal spine to the foramen magnum twenty-six inches. The increase in the size of the skull is obtained, chiefly, by the enormous enlargement of the frontal and parietal bones; and these bones are united together, and, through the medium of rows of numerous Wormian bones, to the temporal and occipital bones; so that the walls of the skull are almost wholly osseous, and the sutures are only obscurely visible. At the top of the skull, however, a large aperture remains on each side, closed only by membrane. Between these apertures, and extending over the vertex of the skull from before backwards, a plate of bone, nearly two inches wide, unites the frontal bone with the occipital, and with the portions of the parietal bones that have coalesced in the median line.

The bones composing the distended portion of the skull are from one tenth to one third of an inch thick; the frontal bone is thinnest: the parietal bones are thickest. The texture of all of them appears nearly healthy, but their outer surface is, in some situations, rough and granulated.

The bones of the base of the skull are slightly enlarged, especially in their width. Most of their sutures appear to be closed. The bones of the face are widened, in adaptation to the increased width of the base of the skull, and the pushing asunder of the squamous parts of the temporal bones. The orbits are depressed, their upper walls being in an almost continuous plane with the forehead.

The spine presents a double lateral curvature, and the scapulæ, humeri, femora, tibiæ, and fibulæ present, in an extreme degree, the shortness and distortion characteristic of rickets. All these bones are soft, light, and greasy: and the left humerus and ulna, the right radius, both femora, and the left tibia appear to have been at distant periods fractured and repaired, with various degrees of distortion.

The pelvis also is remarkably deformed. The lower half of the sacrum is turned nearly straight forwards; the acetabula are approximated to within half an inch of each other; and the ossa pubis, thence extending forwards in nearly parallel lines to their symphysis, give the pelvis a peculiar *beaked* form. The tubera and spines of the ischia,

also, pressed inwards behind the sacrum, approach within half an inch of one another.

The specimen is described in the 'Commentationes Regiæ Societatis Göttingensis,' 1826, and in the 'Beiträge zur Anatomie und Physiologie,' by E. A. W. Himly.

From the Museum of Professor Himly.

3880. The skull of a Sheep, of which the bones, especially the frontal and parietal, are much expanded as a consequence of hydrocephalus. The points at which the ossification of these bones commences form prominent rounded projections from their surfaces. All the bones are completely and firmly ossified, but the anterior fontanelle and the median lacerated foramina are seen as elongated fissures closed with membrane. The petrous bones are small, and each external auditory meatus is much flattened.

Purchased, 1875.

3880 A. The skull of an infant affected with hydrocephalus. The upper part is widely open, and the middle fossæ at the base are much expanded, the bones being pushed so far out of their normal position that the membrana tympani and squamosal bones look directly downwards. There is an aperture in the ex-occipital bone, through which an encephalocele projected.

The specimen is described and figured in the St. George's Hospital Reports, vol. i. 1866.

Presented by John Lomax, Esq.

Series XLII. INJURIES AND DISEASES OF THE SPINAL CORD AND OF ITS MEMBRANES.

Compression and Laceration: 3881 to 3883.
Effusion of Blood: 3884.
Softening and Degeneration: 3885, 3886.

Appendix.

Injuries and Diseases of the Membranes of the Spinal Cord: 3887 to 3890.

3881. "A portion of the medulla spinalis, which had been compressed" (*Hunterian MS. Catalogue*).

3882. A portion of spinal cord, compressed, near the cauda equina. *Hunterian.*

3883. Part of the upper dorsal portion of a spinal cord, crushed in a case of fracture and dislocation of the second dorsal vertebra. At the crushed part the cord is completely divided, its substance appearing as if it had been pressed downwards, for the part below the division is unnaturally large.

The patient was a man 30 years old. The injury was received three weeks before death. All the body below the seat of injury was paralyzed, the urine was retained, and the fæces passed involuntarily. There was much difficulty of breathing, and some vomiting; and these "symptoms continued till within two or three days of his death, with little variation, except that the vomiting became almost continual and very distressing, and his lower extremities quite cold and purple."

He had no pain in either the chest or abdomen.

After death "both lungs appeared diseased, in some parts as if thickened by inflammation and coagulated blood that had been effused into their substance." Bloody serum was effused in both pleural cavities, and there were signs of recent pericarditis. A great quantity of sero-purulent fluid was found in the abdomen: the peritoneal coat of the intestines was inflamed, and adhesions were formed between their convolutions. The sigmoid flexure of the

colon was adherent to the bladder, and an abscess had formed between them, the ulceration nearly extending into both the bladder and the intestine.

The case is further related by Mr. Swan in his 'Treatise on Diseases and Injuries of the Nerves,' p. 220, London, 1834.

Presented by Joseph Swan, Esq.

3884. The greater part of a spinal cord, into the substance of which blood has been effused. An incision has been made in the middle line along its anterior surface, showing a large dark-coloured clot situated between the origins of the third pair of dorsal nerves, and another still larger clot about an inch lower down. The substance of the cord around these clots was somewhat softened, and it was more or less infiltrated and stained with blood from opposite the third cervical to as low as the last dorsal vertebra.

From a gentleman, 44 years of age, stout, but of active habits and rather a free-liver, subject to occasional attacks of gout, but otherwise in good health, who, on the 10th of May, 1849, having been during the day much engaged in business, after a late dinner went to bed at half-past eleven, and was almost immediately seized with spasms in the stomach, and complete loss of sensation and power of motion in the lower half of the body. When seen, about midnight, he was found shivering in bed; his intellect was quite clear; he had perfect use of his arms, though complaining of pain in the wrists, but complete paraplegia of the whole of the body below the third pair of ribs, and strong priapism. No excito-motory actions could be induced. After the circulation was restored the treatment consisted chiefly in cupping between the shoulders, a blister to the nape of the neck, purgatives to unload the bowels, and frequent doses of calomel. The priapism subsided in about twenty-four hours. There was no extension of the paralysis, except a feeling of numbness, and finally some imperfection in the power of using the hands. The respiration gradually became embarrassed, and he died exactly four days after the seizure, his intellect remaining unaffected until the last few hours.

The spine was examined seventeen hours after death. The muscles of the back were much loaded with blood. No fluid escaped on opening the theca vertebralis. The vessels on the surface of the cord were much congested. The other morbid appearances are shown in the preparation.

Presented by T. Blizard Curling, Esq.

3885. "A portion of medulla spinalis, in which the natural

structure is indistinct" (*Hunterian MS. Catalogue*). The cord has been unfolded in the way in which this can be readily done when the grey matter has been softened.

Hunterian.

3886. Four transverse sections of the spinal cord, showing degeneration of tracts consequent on a fracture of the spine with crushing of the cord in the middle of the dorsal region. The upper section, taken from above the injury, shows white degenerated areas (sclerosis) in the posterior median columns (tracts of Goll), and in the direct cerebellar tract. In the second and third sections, from the dorsal region ome distance below the injury, there are white symmetrical areas of degeneration in each lateral column (crossed pyramidal tracts). The lowest section, taken from the lumbar region, also exhibits smaller degenerated patches in a corresponding situation.

From a man, aged 34, who died exhausted with bed-sores and blood-poisoning, one hundred and fifty days after the injury, which was caused by a fall from a height of thirty-eight feet.

Presented by Samuel G. Shattock, Esq., 1883.

APPENDIX.

Injuries and Diseases of the Membranes of the Spinal Cord.

Effusion of Blood: 3887.
Effects of Inflammation: 3888.
Cerebro-spinal Meningitis: 3888.
Morbid Growths: 3889, 3890.
Sarcoma: 3889, 3890.

3887. Part of the cervical portion of a spinal cord. Blood was effused in large quantity in the tissue covering the posterior part of the dura mater.

"The effusion was the consequence of a subluxation of the third

cervical vertebra. The man had almost complete paralysis of all the voluntary parts below the neck, having only a small degree of tremulous motion in one arm; and the fæces and urine passed involuntarily. The actions of the vital organs were perfect. In this state the patient lived six weeks."—*Hunterian MS. Catalogue.*

Hunterian.

3888. The spinal cord of a child eight months old. The arachnoid membrane covering the posterior part of the cord is thickened and opaque, and has lymph thinly deposited on it, from the superior dorsal region to the cauda equina.

The child was attacked three weeks before death with vomiting and fever, and a few days afterwards had complete and rigid opisthotonos. He appeared insensible, the pupils were dilated, and there were frequent convulsive movements of all the muscles of the body, and especially of those of the face. These signs continued to the time of death.

An unnatural quantity of fluid was found in the cerebral ventricles, and the anterior fontanelle was too wide open. The substance of the brain appeared healthy. There is a further account of the case by Mr. Swan in his 'Treatise on Diseases and Injuries of the Nerves,' p. 213.

Presented by Joseph Swan, Esq.

3889. The cervical portion of a spinal cord with an oblong circumscribed tumour lying beneath the dura mater, and connected by a narrow attachment with the posterior surface of the cord. The tumour is sufficiently large to overlap the cord, which, at the level of the fourth cervical nerves, is flattened from behind forwards by the pressure of the tumour.

Microscopically the tumour was made up of fibrous tissue, containing spindle-shaped nuclei, and with many small round cells scattered throughout it (fibro-sarcoma).

From a man, aged 25. He first complained of pain, and subsequently of stiffness, in the neck. After a long interval he began to experience numbness in the left hand, followed by loss of power, and resulting in complete paralysis. Next his left leg became similarly affected, then the right arm, and finally the right leg, and for the last two weeks of his life he was completely paralyzed in the trunk and extremities; he suffered from intense headache, but the optic discs were unaffected. Respiration at length failed, and he died about nine months from the onset of symptoms. (See Trans. Path. Soc. vol. xxxiii. p. 25, 1883.)

Presented by Dr. Lediard, 1882.

3890. A portion of a cervical spine with a fibro-sarcomatous tumour attached to it and having a prolongation between the right transverse processes of the second and third cervical vertebræ. The tumour is rounded, smooth externally, and about two inches in diameter; its section is firm and indistinctly fibrous. Its pedicle was connected with the dura mater, from the fibrous tissue of which it probably originated. The cord has been removed; opposite the seat of the tumour it was compressed by a small mass of the growth which pushed forward the membranes near the posterior roots of the nerves.

Microscopically the growth was composed of fibrous tissue, with many round and elongated nuclei.

From a man, aged 34, who enjoyed good health until the age of thirty, when he noticed a painless swelling on the right side of the neck; and about that time he first experienced numbness of the finger-tips. Motor power was not affected, and he could grasp or pick-up any object which he could see, although he could not feel it. He gradually lost motor power in both the upper and lower limbs, so that two years before death he was unable to walk, but until the last he could, while in bed, flex and extend the legs, and there was no anæsthesia. The upper extremities became much wasted; finally the diaphragm and intercostal muscles became affected, and death took place with dyspnœa and cyanosis. (See Brit. Med. Journ. vol. i. 1875, p. 705.)

Presented by Dr. T. Stretch Dowse, 1875.

Specimens of Injuries and Diseases of the Spinal Cord in other parts of the Museum are:—

Injuries by Violence: 2021, 2022, 2024 to 2026, 2028 A, 2032, 2035.
Condition in Curved Spine: 2066, 2070, 2071.

Series XLIII. INJURIES AND DISEASES OF NERVES.

Atrophy: 3891 to 3893.
Effect of Injuries: 3894 to 3905.
Effects of Division, and Repair: 3899 to 3905.
Bulbous Enlargement of Nerves of Stumps: 3896 to 3898.
Hæmorrhage in Nerve-sheath: 3894.
Effects of Inflammation: 3906 to 3909 A.
Nerves involved in Ulcers of the Integuments: 3910, 3911.
Morbid Growths and other Tumour-like Enlargements of Nerves: 3912 to 3925.
Nodular Enlargements and Neuroma: 3912 to 3923.
Sarcoma: 3924 ?, 3925.

Atrophy.

3891. Parts of the optic nerves and tracts, with their commissure, from a person who had amaurosis of the right eye. The right optic nerve and the tract of the same side are smaller than those of the opposite side. *Hunterian.*

3892. Sections of an optic nerve, from a person who had been blind forty years, exhibiting a diminution of the size of the nerve, with thickening of its sheath, so that on an external view the nerve appears of ordinary size. The eye is preserved, No. 3977. *Presented by John Quekett, Esq.*

3893. Two pneumogastric nerves, with their branches to the œsophagus, bronchi, and cardiac portion of the stomach. "On tracing," says Mr. Swan, "the par vagum from the middle of the neck, each nerve was flabby and much smaller than natural, and felt like a nerve removed from a putrid body after being soaked in water. The branches distributed to the lungs appeared as usual, as well as the continuations of the nerves, nearly as far as the termination of

the œsophagus, where they were found redder and thicker than usual, and had not a healthy appearance. The left nerve was smaller than the right."

The history of the patient from whom the specimen was taken is detailed by Mr. Swan in his 'Treatise on Diseases and Injuries of the Nerves,' London, 1834, p. 170. The symptoms throughout the later periods of his disease were such as led to the suspicion of disease of the pneumogastric nerves, and were very like those observed in animals in which those nerves have been divided; such, for example, as craving for food, and the want of a sensation of fulness after eating very largely, difficulty of breathing increased in paroxysms, and, when extreme, accompanied by a whistling noise, as if the glottis were contracted; while at the same time there were no signs of disease of the heart or lungs, and these organs, after death, were found healthy.

Presented by Joseph Swan, Esq.

Effects of Injuries.

3894. Part of the sciatic nerve of an old man, some of the filaments of which were lacerated and detached in a fracture of the upper part of the femur. At this part it was enlarged, and surrounded with coagulated blood. A coagulum, which adhered with peculiar firmness to the lacerated part, is preserved.

There is an engraving of this preparation in Mr. Swan's 'Treatise' (pl. 1), wherein also there is an account of the case at p. 106. The patient complained of much more pain than is usual in fractures of the femur.

Presented by Joseph Swan, Esq.

3895. Parts of the carotid artery and pneumogastric nerve of a Horse, both of which were included in a ligature during an operation for the removal of a large tumour from the neck.

Mr. Hunter's account of the case is added to the description of the tumour, No. 468.

Hunterian.

3896. Portion of a nerve from the stump of a thigh after amputation, exhibiting a bulb-like enlargement of its cut extremity. *Hunterian.*

3897. Section of another nerve, from the same stump. Most of the bundles of nervous fibres appear to cease abruptly at the commencement of the bulb-like enlargement; one can be traced for a short distance into its substance. The section of the enlargement itself exhibits a uniform, firm, and compact texture, like that of a cicatrix of the integuments. *Hunterian.*

3897 A. The other section of the nerve last described. *Hunterian.*

3898. Another nerve, from the same stump, in which several bundles of nervous fibres have been traced by dissection, diverging at the lower end of the nerve, and passing for a short distance into the bulb-like enlargement. *Hunterian.*

3899. Portion of the sciatic nerve of a Dog, which was divided seven days before death. "Part of the wound of the skin had healed by the first intention; the remainder continued open, and was filling-up by granulations. The wound in the muscles was perfectly healed. The extremities of the divided portions of nerve were separated two and a half twelfths of an inch, and were both much enlarged. On the posterior part of the nerve, or that which lies nearest the bone, the space was filled up and was white and transparent. On the anterior part it was quite uneven, and appeared as if healing by granulations; but there was no discharge of pus. The cellular membrane about the nerve was thickened to some distance."

From Mr. Swan's 'Treatise on Diseases and Injuries of the Nerves,' p. 190 (London, 1834).

3900. The left leg of a Rabbit, from which half an inch of the sciatic nerve was cut out four months before death. "The extremities of the divided portion were separated from each other eight twelfths of an inch. There appeared several small branches arising from the superior portion, but there were three very remarkable: one was continued down into the nerve passing to the outside of the heel, which in this case was larger than ordinary; the other two (which are

here shown in the posterior median line of the limb) appeared to be newly-formed nerves; one went from the superior portion to the popliteal nerve, the other went from the same place to that which corresponds with the fibular nerve in the human subject. The integuments of the heel were in an ulcerated state, and part of the os calcis was dead; but these diseased appearances had not, I think, increased in the last two months. The Rabbit was certainly much improved in the use of the limb, which was, however, very far from being perfect."

From Mr. Swan's 'Treatise' already quoted, p. 192. There is an engraving of this preparation in the same, pl. vii.

Presented, with the preceding and the five following specimens, by Joseph Swan, Esq.

3901. The muscles and other parts on the outer side of a knee, together with the peroneal nerve and some of its branches. A portion of the peroneal nerve, an inch in length, was removed from the part at which it lies near the tendon of the biceps flexor cruris muscle. In describing the appearances shown in this preparation, which is taken from the limb amputated three months after the operation on the nerve, Mr. Swan says :—"The peroneal nerve was enlarged, and at the place where it had been divided was much thickened, and one new branch went from this part to the anterior tibial nerve. The junction of this branch with the anterior tibial was at the inner side of the nerve, and, from the manner in which it is situated, I think it not improbable that some other branches, forming a medium of communication between the divided portions of nerve, might have been destroyed in the dissection. New branches went from the same portion of the divided nerve to the dorsal branch, and to the surrounding parts. Both the anterior tibial nerve and the dorsal branch were larger than in their natural state. The new branches that went to the dorsal branch and the surrounding parts were flatter than nerves of the same size usually are; but, so far as I can judge, they were new nerves."

The operation on the nerve was performed for the relief of the

sufferings produced by a large and very painful and bleeding ulcer on the front of the leg of a man 48 years old. Paroxysms of pain used to come-on with violent stabs like spasms, which extended up the outside of the leg to the ham, and thence to the back; and in these paroxysms the limb would frequently be moved involuntarily. Pressure on the peroneal nerve aggravated the pain. After the operation the patient never had any of the violent pain or spasms of the limb, and was much more comfortable; but he still, at times, suffered pain from the connection of the saphenous nerve with the ulcer. The necrosis of the tibia, however, with which the ulcer was connected, made progress, and the general health became more affected; the limb was therefore amputated.

The case is further related by Mr. Swan in his 'Treatise' &c., p. 77; and there is an engraving of this preparation in the same work, in pl. vi.

3902. Part of a nerve, from a Horse's leg. A portion of the nerve was cut out eleven months before death, but the functions of the nerve were in some measure restored, probably by the production of new nervous filaments in the large bulb-like substance which formed the bond of union between its cut extremities. The surface of the section of this cicatrix presents numerous irregular white streaks in a compact pale brownish substance, and no boundary line can be traced between it and the parts of the original nerve between which it is formed.

3903. Another nerve, from the same leg. It was divided at the same time, and is similarly healed.

3904. A nerve, from another leg of the same Horse. After a portion had been at the same time removed from this nerve, its divided extremities, like those of the others, were united by a similar but smaller bulb-like cicatrix, through the medium of which its functions were also in some measure restored.

3905. Another nerve, from the same leg, similarly treated and similarly healed. Of both these nerves the trunks above the cicatrix are smaller than the corresponding parts of the nerves of the other leg.

The horse had been lame for two years, at the end of which

time a portion of each of the nerves going to the feet was cut-out. After this he went very well for six months, when he again became lame, and continued so five months. Then, as he appeared to suffer great pain, he was killed. One of the legs, in which the nerves and their bond of union were largest (and from which Nos. 3902 and 3903 were taken), was much swollen, especially at the foot, where matter was discharged by several sinuses leading to a diseased coffin-bone. In the other leg there did not appear to be much disease.

The case is related by Mr. Swan in his 'Treatise on Diseases and Injuries of the Nerves,' p. 209 (London, 1834).

Effects of Inflammation.

3906. Section of the radius of an Ass, fractured obliquely near its upper extremity. The fractured portions are displaced laterally, but are firmly connected by the thickened periosteum and by a thin layer of fibrous tissue which intervenes between their adjacent surfaces. The cancellous tissue at the extremity of each portion is filled with compact osseous substance, which has coalesced with the wall. The radial nerve and its branches are enlarged.

3907. A hand and part of a fore-arm, with the nerves on the anterior aspect displayed. The median nerve is enlarged, especially in the situation of its passage under the annular ligament, where also its connexions with the sheaths of the tendons were thickened.

The patient, a man 22 years old, "seven years before the removal of the hand, was holding a horse, with the halter tight round his hand, when, the horse running back, the wrist was injured and became immediately bent. The part was violently pulled after the accident, and thereby further injured. He had great pain in the wrist and palm of the hand ever after, and a slight pain at the back of the hand. The skin at the back of the hand was injured, and was continually ulcerating. The thumb and three fingers were always bent towards the wrist, and could be extended only in a very small degree; and the sense of touch was lost. As the hand was useless, and the source of much inconvenience, it was amputated, and the part soon healed."

On dissection no other alteration was found in the carpal joints than such as would result from their being constantly bent: they

did not appear to have suffered any serious injury. The muscles on the anterior part of the fore-arm were shortened.

The case is related in Mr. Swan's 'Treatise,' p. 60; and there is an engraving of the diseased nerve in pl. iii. in the same work.

Presented with the preceding by Joseph Swan, Esq.

3908. Sections of an ischiatic nerve, which was pressed-on by a large tumour. Mr. Hunter says of it:—"It was denuded for more than four inches, where it became of a bluish black; but where it was in contact with the living parts, which were become inflamed, there it was also become inflamed and thickened, but this thickening was owing to the cellular membrane being loaded with coagulable lymph."

The histories of this and the following preparations are added to the description of No. 180, vol. i. p. 72.

3909. A longitudinal section of a posterior tibial nerve, diseased like the preceding. *Hunterian.*

3909 A. The other section of the same nerve. *Hunterian.*

3910. Portion of the long cutaneous branch of the peroneal nerve, involved in an ulcer of the surrounding parts, and itself much changed in structure where it is in contact with the ulcer. Part of it is turned downwards, and its fasciculi appear unnaturally separated. Above and below the part adjacent to the ulcer the trunk of the nerve is enlarged.

From a woman 43 years old, whose leg was amputated on account of an extremely painful ulcer, with a "fungus" growing from it, which had existed on the lower and outer part of the leg between two and three years. The anterior tibial nerve was connected with the fungus, and the dorsal branch of the peroneal nerve gave many filaments to its base, which were very much enlarged in consequence of the irritation.

The case is more fully related by Mr. Swan in his 'Treatise,' p. 73; and there are engravings of the parts in the same work, pls. iv. and v.

Presented by Joseph Swan, Esq.

3911. Portion of skin from a leg, on which there is an extensive superficial ulcer. It was extremely painful, and two cutaneous nerves, much enlarged, are traced in the cellular tissue beneath it. Some of the papillæ of the skin, near the margin of the ulcer, are very large.

From the Museum of Robert Liston, Esq.

Morbid Growths in, and Tumour-like Enlargements of, Nerves.

3912. Part of a left sciatic nerve unravelled, and exhibiting a great number of oval enlargements, like ganglia, from a quarter of an inch to nearly an inch in length, and from one to three lines in diameter, on various parts of its fasciculi. In the sections of some of these enlargements they appear to be formed of a dense and somewhat fibrous texture, like the bulbous enlargements of divided nerves. The trunk of the nerve, before it was unravelled, was very large; its neurilemma was dense, and the fibro-cellular tissue connecting its fasciculi was hardened and confused, so that their separation was extremely difficult. Examination with the microscope shows that each enlargement depends, not on a tumour imbedded among the filaments, but on the development of a large quantity of fine fibro-cellular tissue among them; so that each filament appears enclosed in well-formed fibro-cellular tissue.

From the Museum of George Langstaff, Esq.

3913. Part of the ulnar nerve, with the tumour seated on it, which was removed from the same patient as the preceding. The tumour is oval, nearly an inch in length, and of homogeneous, pale, firm texture. It appears to be imbedded in a large, and probably unnaturally enlarged, branch of the nerve, having nervous fibres expanded around it and being enclosed in a tough capsule like a distended neurilemma, which can be easily reflected from it. In the trunk of the ulnar nerve, at a short distance from this tumour, is one of much smaller size, but similar in texture, loosely imbedded among the nervous fibres, and

causing an apparent local enlargement of the nerve, like some of the numerous enlargements in the preceding specimen.

3914. Sections of an oval tumour, together with a large portion of one of the flexor muscles of a thigh, removed from a stump. The tumour, which in its general appearance resembles the firm oval tumours found in nerves, was situated close to the tuber ischii. "It was covered by a thin white capsule; and in compactness, toughness, and consistence, it approached to the character of scirrhus."

Presented with the preceding by Sir William Lawrence.

The case of the patient is related by Sir W. Lawrence in the 'Medico-Chirurgical Transactions,' vol. xvii. p. 31. London, 1832:—

"A tumour appeared spontaneously, and increased rather rapidly, in the left thigh of a gentleman 27 years of age. He determined to take the opinions of Sir William Blizard and myself. We found him with a tumour of elastic feel, undefined in its circumference, about four inches in diameter, with the skin shining and bright red, on the anterior and inner part of the left thigh, a little above the knee. There was a firm indolent swelling, about as large as a hen's egg, imbedded in the soft parts at the back of the pelvis, and a similar one in the back near the spine, one as large as a nut over the left eye, and several smaller ones just under the skin in various parts. All the smaller productions had shown themselves subsequently to the appearance of the large tumour in the thigh. The patient was almost worn out by pain and want of rest; he was excessively emaciated, with profuse fœtid perspiration. I considered the case quite hopeless, not only from the multiplication of the external swellings, but also from the probability that disease had occurred in internal organs. To Sir W. Blizard it appeared in a light rather less unfavourable; he thought there was a chance of success from amputation, and he performed the operation two days afterwards (March 1819). This was half a year after the first appearance of the swelling. The more serious and distressing symptoms were immediately relieved, and the patient eventually recovered. The tumour in the eyebrow, which had increased and become painful, was removed in 1825. In December 1828, I was consulted by this gentleman on account of the tumour in the fore-arm as large as a walnut, situated over the course of the ulnar nerve, and causing severe pain with indescribable sensations, like electric shocks, upwards and downwards in the direction of that nerve. He had enjoyed tolerable health, without being strong. At this

time he was nervous and irritable, with an anxious countenance and an aged appearance. I removed the disease in February 1829: it was situated between the flexor carpi ulnaris and the bone, and the nerve adhered so closely to it that a portion was removed with the tumour. The latter was of firm texture, but not so hard as scirrhus. [It is preserved in No. 3913.] The part healed favourably, and remains well. The patient again came to me in December 1830, on account of a tumour, the size of a goose egg, imbedded in the flesh of the stump. He had not been aware of its existence when the last operation was performed; and it had become troublesome only during the preceding six weeks. He now experienced most severe shooting pains in the part, with repeated recurrence of the electric dartings from the stump into the body. I removed the tumour, finding it necessary to make a large incision on account of its size and its deep situation. The growth, although it had been loose and felt circumscribed, appeared to be prolonged to the tuber ischii, and I removed it up to the bone. The part removed [and preserved in No. 3914] consisted of a circumscribed oval tumour, and of a firm fibrous prolongation connected to it externally, and consisting of one of the flexors of the knee, which had been divided in the amputation, converted into a tough fibrous texture of light brown tint. The swelling was covered with a thin white capsule, and was homogeneous: in compactness, toughness, and colour, it approached to the character of scirrhus. The extensive wound of this operation healed without any unfavourable occurrence.

"The pelvic and dorsal tumours remain nearly as they were twelve years ago. Several small subcutaneous knots can be felt in the arms and head, by passing the hand firmly over the surface; but they are less than when the thigh was amputated. There are a few small softish cutaneous growths in the face. The appetite, health, and strength are tolerably good; but there is of late increase of suffering. Strange sensations, sudden dartings and shootings occasioning convulsive movements, and compared to the effects of electricity, are often experienced."

In 1846 the patient remained in tolerably good health, and was able to discharge his duty as a clergyman. All the tumours referred to in the latter part of the case were stationary: they were attended by the same kind of pain, but it was less now than formerly. Recently a tumour had appeared within the abdomen in the right iliac and lumbar region; and this tumour enlarged, and he died exhausted with it and others of the same kind developed on the intestines and other parts; all of which had the same general appearance as that preserved in No. 3914.

3915. A specimen of numerous elongated oval enlargements of portions of the fasciculi of a sciatic nerve, exactly like that shown in No. 3912.

This specimen was taken from a limb in which there was long-

standing suppurative disease of the synovial membrane and cartilages of the knee-joint.

3916. A right upper extremity, with the arm and front of the wrist dissected to show general and partial, or circumscribed, thickenings of the nerves. All the nerve-trunks of the upper arm are much enlarged throughout their whole length, the median nerve being of the size of a little finger; the internal cutaneous and the cutaneous branches of the musculo-spiral nerves are the seat of numerous elongated nodular enlargements. The radial nerve at the wrist-joint shows a well-marked nodule, and, as well as the median and ulnar nerves, is also uniformly enlarged. Situated upon the skin, over the front of the forearm in its lower third, are two button-like prominent masses of soft cancer; they occupy the angles of a cicatrix marking the seat of an operation by which a tumour was removed from the skin and biceps muscle. Small oval molluscum-like tumours of a reddish-brown colour were observed during life under the skin of various parts; they did not appear to be connected with nerve-filaments.

Microscopically, the nodules on the nerves were composed of white fibrous tissue, of which there was a great excess in all the nerves; no evidence of new formation of nerve-tissue existed. The button-like recurrent growths consisted of a close plexus of large capillaries, branching at right angles, with round, elongated, and irregularly shaped cells of epithelial type in their interstices. The molluscum-like subcutaneous bodies showed under the microscope clusters of short bundles of wavy fibrous tissue, merging in some parts into hyaline sarcoma-tissue.

A man, aged 34, having good family antecedents, was admitted to Hospital in October 1871. He had been the subject of two congenital tumours, of the breast and left eyelid respectively, which were removed in 1855 and 1856. Three years before admission he noticed a small movable tumour over the front of the right biceps; and in April 1871, having then attained the size of a hen's egg, it was removed. In July the tumour recurred near the cicatrix, grew rapidly, and, after being incised in August, began to "fungate." In October, the tumour, with a portion of the infiltrated biceps, was dissected out. Several molluscum-like tumours were noticed at that time about the body, and some large masses deeply seated in the left side of the neck. Local recurrence of the disease took place a fortnight after the operation, and amputation through the shoulder-joint was performed in

December. The patient recovered from the operation, but died with a return of the disease on the stump in May 1874. (See MS. Notes, with drawings of the microscopic appearances, vol. i. p. 359.)

Presented by Sir William Fergusson, 1871.

3917. A large globular fibro-cellular tumour, removed from the posterior part of a thigh. It has a distinct, firm, fibrous capsule, in close connexion with the posterior surface of which is the sciatic nerve. The nerve is enlarged by a considerable growth of condensed areolar tissue in its sheath and between its filaments. When unravelled, the nerve-fibres were found dilated at intervals into oval or fusiform enlargements, not on the same level in contiguous filaments, but corresponding with more distant ones, all fitting closely into each other, and producing an external appearance of a general and uniform increase of size in the nerve.

3918. The upper part of the same sciatic nerve, partially unravelled below.

3919. A portion of the same nerve, in which the areolar tissue has been removed from the nerve-fibres and the small tumours connected with them.

3920. Section of a tumour enclosed in the sheath of a radial nerve. The surface of the tumour is smooth, its form is nearly oval, and it measures an inch and a half in its chief diameter. Its substance is dense, compact, and obscurely fibrous; the neurilemma invests it closely; and the fasciculi of the nerve are expanded round it.

Hunterian.

The case was published by Sir Everard Home in the 'Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge,' vol. ii. p. 154. "A lady, 20 years of age, had a tumour on the outside of the biceps muscle of the right arm, just below the middle. It was of the size of a small pullet's egg, of an elliptical form, and movable in the surrounding parts, but principally in a lateral direction. It was extremely painful when anything pressed against it, which made her very careful in defending it from external accident. It had been several years in

arriving at this size, but was now increasing more rapidly, which induced her to submit to have it removed. The operation was performed by Mr. Hunter, in which I assisted him. In the operation, handling the tumour, or moving it from its place, gave the most excruciating pain. When the tumour was fully exposed, it had a smooth shining external surface, and terminated at its upper ends in a strong white cord, which proved to be the musculo-cutaneous nerve. Upon cutting into the tumour, it was discovered to be enclosed in the nerve. This discovery was not made till the tumour had been everywhere laterally dissected from the surrounding parts. It was, therefore, thought prudent to remove the whole by dividing the nerve at the two ends of the tumour. The artery belonging to the nerve bled so freely that it became necessary to apply a ligature on both the cut ends of the nerve, as the artery itself could not be got at. An attempt was made to heal the wound by the first intention, which did not succeed; but it got well, as soon as wounds of that size usually do, by suppuration and granulation. The patient lost the use of her forefinger and thumb, and there was a numbness in all the parts supplied by that nerve. The skin which covered them was unusually rough and dry, and the cuticle came off in small scales. Before the operation the pain was not confined to the tumour, but extended to all those parts. On examining the tumour, it was found that three inches in length of the nerve had been removed, that it was divided into two portions, each of them very much flattened, and passing over two opposite sides of the tumour. There was also a nervous expansion, not thicker than a common membrane, which completely invested the whole of the tumour; and when that was divided, it could be readily separated everywhere except at the extremities, where the connexion was somewhat stronger.

"When the tumour was divided, and the cut surface accurately examined, it had the appearance, in the centre, of serpentine nervous fibres, running in the course of the nerve. These were separated from each other, and the interstices filled up with the substance of the tumour; but that part of the tumour which was exterior to these fibres had something of a radiated structure."

Hunterian.

3921. A very small flattened subcutaneous tumour, composed entirely of fibroid tissue. Into one side of it enter several small nerve-filaments, branches of the external cutaneous nerve.

It was removed from the outer side of the lower part of the leg of a gentleman, aged 41. It had existed twenty-five years, and he thus described his symptoms:—"For the last ten years it has been very painful—at first I only felt the pain for a few minutes once or twice a week. Then it came more frequently, and of late years nearly every day, and sometimes two or three times in a

day. The duration of the pain, at first about a quarter of an hour, extended to half an hour or longer, and was so great that I could not put my foot to the ground, and no one can form any idea of what I have suffered. I do not know of any cause for its coming, nor have I observed any increase in its size. Some years ago I tried cold bathing to it, but this made the pain worse. An elastic stocking, too, only made matters worse. The pain would come on in a moment nearly every morning, after I got to the omnibus, apparently from cold, or if I felt very cold, and sat near the fire. I was then obliged to stand on one leg, not bearing to touch the ground with the painful leg."

Presented by John Hilton, Esq., 1868

3922. Section of a tumour, removed from the interior of one of the nerves of an axillary plexus, together with a portion of the neurilemma by which it was surrounded. The tumour is of a flattened oval form, and nearly three inches in length; it is composed of pale, uniformly compact, and very firm substance, with an appearance of white longitudinal fibres running through its axis, and undulating towards its circumference. *Presented by Sir Everard Home.*

3922 A. A part of the nerve from within which the preceding tumour was removed. The cavity in which the tumour was enclosed is diminished in size; its internal surface is wrinkled, and rough with deposits of lymph (it was full of coagulated blood); its walls are from half a line to a line in thickness, and are formed of a compact tissue, in which are imbedded the nervous fasciculi expanded around the tumour. The greater part of these fasciculi were collected together behind the tumour. Another branch of the axillary plexus is adherent to the exterior of the cavity.

The case is recorded by Sir Everard Home in the 'Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge,' vol. ii. p. 157. The patient was a Frenchman, 35 years old. The tumour had existed two years; it was situated in the middle of the axilla; became prominent when the arm was raised, and had some limited mobility in the lateral direction; and severe darting pain was felt in the fingers, and was much increased by pressure upon the tumour. In the operation for removing the tumour (after various means had been used without avail to diminish the sufferings it produced), the axillary vein was found stretched over its anterior surface. This being held aside, the

tumour was exposed, and, being seen to terminate below in a white cord, which produced a sensation of overstretching of the arm when it was pulled, it was supposed to be seated in the nerve. Part of its external covering was therefore dissected off, and it was scooped out with the fingers. Immediately after the operation the patient felt relieved: next day he was free from pain and could move his fingers without uneasiness; and he went on well till the fourth day, when he lost his appetite, had an unusual heat in his skin, and his pulse became quick. Next day these signs were increased, and he became depressed in spirits; and on the day after, he died.

A similar, but smaller tumour was found after death in another of the nerves of the brachial plexus. All the other parts of the body were healthy.

Presented by Sir Everard Home.

3923. Portion of an ulnar nerve, with a hard round tumour enclosed within the neurilemma, and expanding the nervous fasciculi upon its surface.

The patient was a man 73 years old. The tumour had been observed twelve months, on the inner side of the triceps humeri muscle, near the axilla, and had produced considerable darting pain in the wrist. In the morning after the removal of the tumour, a carbuncle was observed to be forming on the back of the wrist, where the darting pain had been very severe on the previous night, and the ring and little fingers were numb. The carbuncle made progress, and the general health was much disturbed; but, after ten days, the case assumed a favourable aspect. On the twelfth day, however, erysipelas appeared on the back, and thence passed rapidly to several other parts: then inflammation attacked the pharynx; after this was subdued, abscesses formed in the arm from which the tumour was removed; and thus at length the patient sank.

Presented by Sir William Blizard.

3924. Sections of a tumour, on the exterior of which the fasciculi of the posterior tibial nerve are expanded. It probably grew within the sheath of the nerve. The tumour has a somewhat oval shape, with a smooth surface, and measures four inches and three inches in its two chief diameters. It is composed of a firm, probably medullary, substance, hard at its central and deepest parts, but softened and broken down near its surface, where there are two irregular rough-walled cavities. It is invested with a tough thick capsule,

a part of which has been removed so as to expose the fasciculi of the nerve.

From the Museum of Robert Liston, Esq.

3925. The anterior crural nerve of the limb from which the tumour last described was removed. Its whole trunk is enlarged, and an oval tumour is imbedded in it, which measures three inches in length, has a smooth regular surface, and is composed of a very firm, compact, pale, obscurely fibrous, and somewhat glistening substance. The fasciculi of the nerve are expanded all round the tumour, but most of them are collected in two sets on opposite sides of it. Some other parts of the trunk of the nerve appeared knotted, as if containing smaller tumours.

The patient was a middle-aged man. The tumour removed from the popliteal space had existed seven years, and was supposed to have originated in a violent sprain. The patient recovered soon after the operation, but about six months afterwards returned with another tumour in the same situation, and enlargement of the inguinal glands. This second tumour in the ham ulcerated, and destroyed life by hæmorrhage. This nerve, with the tumour in it, was removed after death.

From the Museum of Robert Liston, Esq.

The principal other specimens of Injuries and Diseases of Nerves may be found by reference to the Series of Diseases of the Eye, and of Stumps, and to Nos. 179, 180, 1425, 1581, 2421, 3215, and 3790.

Series XLIV. DISEASES OF THE NOSE.

Hypertrophy of Mucous Membrane: 3926, 3927.
Syphilitic Disease: 3928 to 3930.
Glanders: 3931 to 3933.
Polypi and other Morbid Growths: 3934 to 3948.
Mucous Polypi: 3934 to 3942.
Fibrous and Sarcomatous Polypi: 3943, 3945 to 3948.
Polypi in the Antrum: 3935, 3944.
Enchondroma: 3934.

Hypertrophy of Mucous Membrane.

3926. A portion of the bones of the right side of a face, showing in the nasal fossa an overgrown and papillary condition of the whole of the mucous membrane covering the inferior spongy bone. There is a small pointed process of mucous membrane springing from the anterior part of the middle spongy bone, apparently an incipient polypoid growth. *Presented by Francis Kiernan, Esq.*, 1871.

3927. A preparation, exposing the lower part of the right nasal fossa, and showing a papillary condition of the mucous membrane over the inferior spongy bone, more advanced than in the preceding specimen.
Presented by Mr. William Pearson, 1874.

Syphilitic Disease.

3928. Section of a skull, exhibiting the effects of syphilitic disease of the nose. The greater part of the septum has been exfoliated, and portions of the perpendicular plate of the ethmoid bone and of the hard palate are exposed by the ulceration of their mucous membrane, necrosed and nearly separated. Over the middle of the inferior turbinated bone there is an appearance of a superficial cicatrix of the mucous membrane. *Hunterian.*

3929. Part of a head, in which the whole alveolar process of the upper jaw, nearly all the septum of the nose, the nasal processes and margins of the superior maxillary bones, the anterior and inner margins of the orbits, and great part of the nasal bones, have been destroyed by syphilitic disease. In the palate the remaining parts are healed, but two large apertures are left at its anterior part. Higher up, the disease appears to have made progress till the time of death, and the remains of the nasal bones are rough and necrosed.

Hunterian.

3930. The septum of a nose, through the anterior and lower part of which there is a large, oval, smooth-edged aperture, which remained after the healing of an ulcer which was considered syphilitic. The external form of the nose does not appear to have been altered. *Hunterian.*

Glanders.

3931. Part of the septum of the nose of a Horse, exhibiting the ulcers of glanders in various stages. Some of them have the form of groups of minute, superficial, elongated, and round ulcers, irregularly arranged, and with healthy interspaces ; in others, such groups appear to have coalesced, producing oval and circular ulcers with well-defined margins, and extending more deeply into the mucous membrane ; others are much larger and deeper, exposing the surface of the cartilage, and having abrupt jagged margins. Some of these last have, also, at their centres extended into the substance of the cartilage, making deep pits in it, or penetrating it, and exposing the mucous membrane on its other side. Where such penetration has taken place, growths like granulations have formed from the under surface of the mucous membrane covering the opposite side of the septum, and have protruded through the holes, so as to look like islands of granulations in the centres of the large ulcers. At all parts the mucous membrane intervening between the ulcers is smooth and appears healthy.

Hunterian.

3932. One of the turbinated bones of a Horse, with the mucous membrane covering it similarly, but less extensively, diseased. *Hunterian.*

3933. Part of the septum of the nose of a Horse, with several ulcers of glanders, and cicatrices of many more. The remaining ulcers have not the same form as those in the last specimens ; but, where they still present their primary form, are circular, with round, elevated borders, depressed bases, and, in some instances, slight elevations in the centres of their bases. They are also regular in size, about two lines in diameter. The cicatrices are very large, and present deeply puckered radiating lines. *Hunterian.*

Polypi and other Morbid Growths.

3934. Section of a boy's head, displaying the left nasal fossa, from which a polypus was removed. The blood-vessels are minutely injected. In the place where the polypus grew, near the posterior aperture of the nasal fossa, there is a round and deep hollow, bounded externally by the expanded wall of the nose, and anteriorly by a prominent fold of mucous membrane, which stands vertically across the floor of the nostril. The inferior spongy bone has been pushed out of its place, and its posterior half cannot be traced. On the lower margin of its anterior half, a small soft polypus is attached by a slender pedicle, and covered with a very vascular prolongation of the mucous membrane. A similar, but smaller polypus is attached, above that just described, to the lower and anterior margin of the middle spongy bone. The cells of the ethmoid bone appear to be completely filled with a firm, elastic, pale, and semi-transparent substance like fœtal cartilage ; a mass of which projects forwards in a round tumour into the upper part of the nasal fossa. The section of this growth, which is shown in the preparation, closely resembles one of a cartilaginous tumour.

Hunterian.

3935. Part of a head, exhibiting a small soft gelatinous polypus,

attached by a pedicle to the mucous membrane lining the outer wall of the right antrum. *Hunterian.*

3936. Part of a head, exhibing a view of the nasal fossæ from below, with a large gelatinous polypus, attached to the anterior part of the left middle spongy bone, and to the mucous membrane below the orifice of the antrum; it extends through the whole length of the floor of the nostril, and through the posterior nares. It has exactly adapted its form to that of the parts around it.

Presented by Joseph Swan, Esq.

3936 A. A preparation of the bones of the face and cranium surrounding the right nasal fossa. A pyriform gelatinous polypus nearly one inch in length projects into the anterior part of the fossa, springing by a broad pedicle from its outer wall anterior to the middle spongy bone. The mucous membrane covering that bone is much hypertrophied. The cavity of the antrum, exposed behind, appears quite normal. *Presented by Francis Kiernan, Esq.,* 1871.

3937. Soft gelatinous polypi, from a nose. Three or four separate polypi, connected with each other at their attachment to the mucous membrane, appear to have been extracted at the same time without breaking their connexions.

Hunterian.

3938. A round gelatinous polypus, extracted from a nose. Its upper narrower part is probably that by which it was attached. *Hunterian.*

3939. A similar specimen. Close to the pedicle by which this polypus was attached another is fixed to it by a very slender stem. *Hunterian.*

3940. A large flat, lobulated, gelatinous polypus, removed from a nose. About the borders of its smaller lobes it still shows some of the transparency which probably the whole of it

possessed when recent; the rest of it, like the preceding specimens, has been made opaque by the action of the spirit. Between two bristles there is a thin long scale of bone, to which the polypus adhered, and which was pulled off with it. Above this there is a large smooth-walled cavity in the middle of the substance of the polypus, probably caused by mucoid degeneration.

From the Museum of Sir A. P. Cooper.

3941. Several similar specimens, from different persons, showing some of the various forms which polypi of this kind may assume, and the various modes in which they are attached to the spongy bones. *From the same Museum.*

3942. Seven specimens selected from a number of nasal polypi, removed from various patients, all attached to portions of the turbinated bones.

Presented by John Hilton, Esq., 1867.

3943. Large fleshy polypi, cylindrical in form, and more or less bent on themselves; the orifices of numerous mucous crypts are seen on their surfaces. A section into the largest, posteriorly, shows its structure to be uniform and compact.

From a boy, aged 10, who had symptoms of polypus as long as he could recollect. The two largest were removed through the mouth, the two smallest through the nose, all by means of the forceps alone.

Presented by Francis Mason, Esq., 1874.

3944. A preparation exposing the cavity of the left antrum. Two gelatinous growths are seen covering the lower part of the outer wall. They are flattened and square in shape, and neither measures more than half an inch in length; they spring respectively from the anterior and the posterior walls of the antrum, and have grown till their free surfaces meet. Hardly more than a quarter of the cavity of the antrum is filled by these growths.

From a lady, aged 50. For nearly two years before her death, excepting the last month, a clear watery fluid dropped almost

constantly out of her left nostril. About six months before the commencement of the discharge she received a heavy blow over the left frontal sinus. A drop of the discharge would fall on the lip every five or six seconds, and the quantity was always increased by mental distress, great exertion, or straining. Its specific gravity varied from 1010 at first to 1004 later in the course of the disease, and it contained a little over 1 per cent. of solid matter, chiefly chloride of sodium. Sulphate of zinc was given both internally and by the nasal douche; and after two months of this treatment the discharge ceased. A month later, after exposure to cold, during a period of great distress, she was seized with acute meningitis, and died in three days. Besides the evidence of inflammation of the pia mater and arachnoid, no morbid condition could be detected outside the left antrum; in that cavity were traces of collapsed and degenerated polypi, as well as the two seen in this specimen. The case is related in the Trans. Clinical Soc. vol. xii. 1869.

Presented by Sir James Paget, 1879.

3945. Part of a large firm polypus, from a nose.

From the Museum of Sir A. P. Cooper.

3946. Part of a large soft and minutely lobulated, polypoid, malignant growth, removed from the posterior nares.

It was pushed from its attachment with the fingers, and extracted through the mouth.

From the Museum of Robert Liston, Esq.

3947. The left side of a head, with a large malignant polypus of the nasal cavities, and other similar tumours attached to adjacent parts. All the tumours appear to be pale and soft, but compact and smooth on their cut surfaces; they are in no part ulcerated. The nasal cavities on both sides are filled; the septum is bent outwards by the portion on its left side, and a large lobulated mass, adhering to its right side, and to the basilar process of the occipital bone, fills the right nasal cavities and the sphenoidal sinuses, and projects backwards into the pharynx. Another large tumour, continuous with that in the sphenoidal sinuses, rises through the bone and dura mater under the anterior lobe of the left hemisphere of the cerebrum; other small

tumours of the same kind are attached to the adjacent parts of the dura mater. Other tumours, again, or parts of those which are seen within the nose, have protruded the eye, everted the lower eyelid, and formed an enormous swelling in the temporal and spheno-maxillary fossæ. The frontal sinuses and the antrum are free from the disease, but the latter is much compressed.

The patient was a man, aged 20. Eight years before his death he first had signs of a cold, which continued and increased for two years. Three years after it began a polypus appeared in the nose, and an imperfect attempt was made to extract it. After this the disease shown in the preparation gradually made progress. He had scarcely any signs of cerebral affection from the tumour within the skull.

From the Museum of John Taunton, Esq.

3948. Two portions of a compact, soft, pale-looking, very slightly vascular, lobulated growth, removed after death from the nasal cavities of a boy five years of age. The non-adherent parts of the surface are smooth and rounded. Its microscopical characters were said to resemble those of a malignant growth.

The patient, after a slight obstruction to the nose for a year, was observed to have a blue discoloration across its bridge, followed by swelling, which was at first supposed to be polypus, but afterwards (Jan. 5th, 1850) was opened as an abscess by a surgeon, and some soft substance was broken away by the finger behind the soft palate. Portions of similar medullary substance were subsequently removed by the forceps on several occasions. Death took place on the 15th of April, from exhaustion, accelerated by hæmorrhage.

The diseased mass filled the entire cavity of the nose, and extended backwards into the upper part of the pharynx. The walls of the orbits were absorbed, and the eyes pushed out laterally. The palatine plates were absorbed up to the alveolar arch, and the sphenoid bone was infiltrated with the morbid growth. The inner surface of the last-named bone, in front of the sella Turcica, was rough and inflamed, and the dura mater unnaturally adherent to it, though not altered in structure. The brain was soft and watery, and the body blanched; but all the viscera were healthy.

Presented by Cæsar H. Hawkins, Esq.

Other specimens in the Museum of Disease involving the Nose may be found by reference to the Series of Diseases of the Jaws.

Series XLV. DISEASES OF THE EAR.

Effects of Inflammation: 3949 to 3952.
Caries: 3951.
Necrosis: 3949, 3949 A.
Inflammatory New-formations on Dura Mater: 3250 to 3952.
Polypi: 3953, 3954.

Appendix.

Diseases of the Pinna: 3955 to 3961.
Keloid and Fibrous Tumours: 3955 to 3958.
Fibro-sarcoma: 3959.
Nævus: 3960.
Epithelioma: 3961.

Effects of Inflammation.

3949. Portion of a temporal bone, in which the mastoid cells, tympanum, and some of the other parts of the internal ear, were filled with thick, purulent, and scrofulous matter. A large portion of bone, including a part of one of the semicircular canals, lies loose in a cavity in the petrous bone, and is indicated by a bristle.

From a man who was extremely deaf.

Presented by Sir William Blizard.

3949 A. A sequestrum consisting of almost the whole of the walls of the bony labyrinth of the left ear, separated from the surrounding petrous portion of the temporal bone by necrosis. The semicircular canals are almost complete, especially the superior transverse vertical canal by which the specimen is suspended. The cavity of the vestibule is displayed upon the front, and the termination of the internal auditory meatus can be seen on the back of the specimen. To the observer's left are the cochlea (opened just below the apex, with the spiral lamina and the modiolus

exposed to view) and a small portion of the tympanic cavity, with the canal for the tensor tympani. To the observer's right is an irregular portion of the mastoid cells.

Removed from a female child, aged 4½, by an incision immediately behind the left ear. There had been a purulent discharge from the ear, with pain and swelling over the mastoid process, for three months previously; these symptoms being sequelæ of scarlet fever. Complete paralysis of the portio dura had existed for about a month. There were no cerebral or meningeal symptoms, and the child's general condition was good.

The sequestrum was lying loose in a cavity, the walls of which were bony, except at the upper part, where they appeared to be formed of the dura mater only; it was easily removed, and the cavity rapidly filled-up; some return of power in the muscles supplied by the portio dura was noticed a fortnight after the operation.

Presented by Walter Pye, Esq., 1884.

3950. Part of a temporal bone, in which there was disease of the internal ear and the adjacent tissues. On the attached surface of the dura mater, covering the diseased part of the petrous bone, there is a small irregular growth, which has the consistence and general appearance of a fibrinous coagulum. It is firmly fixed to the dura mater, with which it has been reflected from the diseased bone.

The patient, a girl 18 years old, had long had profuse purulent discharge from the ear. On its sudden cessation, violent headache and delirium ensued, which were speedily followed by coma and death.

From the Museum of Robert Liston, Esq.

3951. Portion of a skull, with the cavities of the internal ear displayed, and other adjacent parts. The tissues of the internal ear are extensively destroyed by ulceration, and part of the surface of the petrous bone is ulcerated. From this part the dura mater has been reflected, and with it two large growths of the same kind as that last described, but connected with its free surface, not, as in that case, with the surface attached to the bone. The tumours are each about an inch in their chief diameter, but very irregular in form.

From a man 47 years old, who was subject to severe and almost constant headache for two or three years. For some days before his death the pain became most intense, and was accompanied by great constitutional excitement.

From the Museum of Robert Liston, Esq.

3952. A similar specimen, except that the dura mater beneath the growth is so thin and soft that it cannot be detached from the petrous bone; and the growth appears, therefore, to be in part fixed to the bone itself. The growth is irregular in form, and upwards of an inch in diameter.

The patient was a middle-aged woman, who long laboured under obscure symptoms of disease in the head, with occasional purulent discharge from the ear.

From the Museum of Robert Liston, Esq.

Polypi.

3953. Polypi, which occupied the meatus auditorius externus. They are soft and yellowish; one of them is smooth, and was attached by a narrow pedicle; the other is regularly and minutely lobulated on its surface.

Presented by Sir William Blizard.

3954. A large lobular polypus, which occupied the meatus auditorius externus. It is soft, yellowish, and semi-transparent, like the gelatinous polypi from the nose. Part of it was torn in extraction.

Presented by Sir William Blizard.

APPENDIX.

Diseases of the Pinna.

Morbid Growths.

3955. Part of the pinna of the ear of an old woman, with a small, firm, fibrous tumour in it.

From the Museum of George Langstaff, Esq.

3956. Two globular, slightly lobulated, keloid tumours removed from the pinna of the ear of a middle-aged negro. A section made into the lower growth shows its substance to consist of numerous interlacing white fibres, with a yellowish material in their interstices.

Presented by Richard Partridge, Esq., 1865.

3957. Two small fibrous growths from the lobe of an ear.

Presented by Sir William Fergusson, 1871.

3958. A fibrous growth or keloid from the lobe of the ear, developed around a hole pierced for an ear-ring. The section is somewhat striated, lines of white fibrous tissue being mingled with more translucent material.

Presented by Sir William Fergusson, 1871.

3959. A recurrent tumour from the lobe of an ear. It is irregularly lobulated and fibrous microscopically.

It was removed at the fifth operation. For a similar specimen, see 4058.

Presented by Sir William Fergusson, 1871.

3960. A section through an external ear, injected. It is occupied by a nævoid growth, which has much shrunken from its original dimensions.

From a girl aged 22. A small florid nævus, situated at the back of the upper border of the left pinna, had existed since birth. Five months before its removal amenorrhœa ensued without any apparent cause, and the nævus at once began to spread and grow

darker in colour, and soon occupied the whole ear. The nævus was excised, except a small piece, which subsequently increased and was removed. The catamenia had not then reappeared.

Presented by T. Carr Jackson, Esq., 1873.

3961. Part of a pinna of a right ear affected with epithelioma, which forms a rounded, oblong growth over an inch in length, and anteriorly much ulcerated.

From a man aged 48. The disease was of four years' duration, having grown slowly at first, but more rapidly before it was removed.

Presented by Richard Quain, Esq., 1865.

3961 A. The head of a Cock, with a pyramidal horny growth, nearly two inches in length, projecting from and greatly distending the left external auditory meatus.

Presented by Charles Stewart, Esq., 1885.

Specimens of Diseases of the Ear in other parts of the Museum are:—Nos. 1425, 1426.

A Collection illustrating Diseases of the Ear, presented by Joseph Toynbee, Esq., is separately preserved.

Series XLVI. INJURIES AND DISEASES OF THE EYE.

Diseases of the Conjunctiva: 3962 to 3964.
Effects of Inflammation: 3962.
Epithelioma: 3963 ?, 3964 ?
Diseases of the Cornea and Sclerotic: 3965 to 3968.
Opacity: 3969, 3970.
Ulcer: 3965.
Staphyloma: 3966, 3967.
Epithelioma: 3968.
Diseases of the Iris: 3969, 3970.
Iritis: 3983.
Synechiæ (Adhesions): 3969, 3970, 3965, 3966.
Diseases of the Choroid: 3971 to 3972 A.
Ossification: 3971 to 3972 A.
Diseases of the Retina: 3973 to 3976.
Thickening: 3973.
Detachment: 3974 to 3976.
Diseases of the Vitreous Humour: 3977.
Diseases of the Lens: 3978 to 3983.
Lamellar Cataract: 3978 to 3980.
Eyes after Extraction of the Lens: 3981 to 3983.
Diseases involving the entire Eye: 3984, 3985.
Atrophy: 3984, 3985.
Morbid Growths in the Eye: 3986 to 4007.
Glioma (Glio-sarcoma): 3986 to 3992 A.
Sarcoma and Melanotic Sarcoma: 3993 to 4007.
Diseases of the Orbit: 4008 to 4011.
Morbid Growths: 4008 to 4010.
Angeioma: 4010.
Hydatid: 4011.
Diseases of the Eyelids: 4012 to 4016.
Malformation: 4012 ?
Dermoid Cysts: 4013 to 4016.

Diseases of the Conjunctiva.

3962. The eye of a child six weeks old, exhibiting some of the effects of purulent ophthalmia. The palpebral conjunctiva

is thickened and granular; its papillæ are much enlarged. There is a large oval aperture, with smooth margins, in the cornea. The pigment of the choroid has no dark colour.

The child died with convulsions and other signs of cerebral disease during the progress of the ophthalmia.

From the Museum of George Langstaff, Esq.

3963. Sections of the eye and eyelids of an Ox. The whole of the conjunctiva is covered with a thick layer of a warty substance, which has many of the characters of the epithelial cancerous growths of the skin. The external surface of the eyelids was covered for some distance by a similar growth, and it extends to the surface of the cornea. The growth during life was very vascular, and bled freely; it formed a mass protruding five or six inches from the face. The eye itself appears healthy, but the optic nerve is elongated. *From the Museum of George Langstaff, Esq.*

3964. The anterior part of an eye, with a large and broad wart-like growth covering the whole of the cornea and the adjacent part of the sclerotica. Probably, like the preceding, it proceeded from the conjunctiva.

The patient recovered after the removal of the disease.

From the Museum of Sir A. P. Cooper.

Diseases of the Cornea and Sclerotic.

3965. An eye, in which there are ulcers of the cornea, and adhesions of the anterior surface of the iris. There appear to have been several small, round, penetrating ulcers of the cornea, which have coalesced; one of them has perforated it. *From the Museum of George Langstaff, Esq.*

3966. The eye of an Ox, having the cornea thickened, opaque, superficially ulcerated, and irregularly staphylomatous. The lens is opaque, deformed, and shrivelled. Part of the iris is adherent to the cornea. *Hunterian.*

3967. The eyes of a boy sixteen years old. The scleroticæ are twice as thick as is natural, contracted and puckered. The corneæ are so thickened, indurated, and opaque that they can hardly be distinguished from the scleroticæ. In one eye the choroid appears natural; in the other it is shrivelled. The retinæ are very thin and filmy. Earthy matter is deposited in each lens.

The eyes had been destroyed in early life by small-pox, and became staphylomatous. For two years before his death the patient was subject to severe pains in his head, and fluid collected in the eyes till they became extremely prominent. The corneæ were punctured, and the globes soon contracted to their present size. He died with typhus fever.

From the Museum of George Langstaff, Esq.

3968. An antero-posterior section of an eye with a growth, probably epitheliomatous, springing from the surface of the cornea. The growth varies in thickness from a quarter to half an inch, is firm and finely nodulated, warty or almost foliaceous on the surface; and it involves the conjunctiva around the margin of the cornea.

Microscopically the growth was composed of large epithelial cells, which invaded, but nowhere perforated, the lamellæ of the cornea.

The eye was removed from a man, aged 70, who had been troubled with a swelling on it for more than a year. (See MS. Notes, vol. iii. p. 78.)

Presented by Jonathan Hutchinson, Esq., 1878.

Diseases of the Iris.

3969. An eye, in which there are opacity of the cornea and adhesion of part of the iris to its posterior surface.

From the Museum of George Langstaff, Esq.

3970. Portion of an eye, in which the cornea is thickened and opaque, and the lower part of the iris is closely adherent to its posterior surface.

From the Museum of Sir A. P. Cooper.

Diseases of the Choroid.

3971. Part of an eye. The choroid membrane contains several small thin plates of bone at its posterior part. The lens is absorbed, and its capsule calcified. The pigment of the choroid is decolorized.

From a man who was completely blinded by lightning forty years before death.

Presented by Dr. Goodfellow.

3972. The eye of a blind man, in which large plates of bone are formed in the capillary layer of the choroid. The sclerotica appears healthy. *Hunterian.*

3972 A. A portion of bone shaped as if it had been moulded on a choroid membrane. It is composed of true bone containing many lacunæ. The remainder of the tunics of the eye is suspended below it.

Presented by Charles Stewart, Esq., 1884.

Diseases of the Retina.

3973. Part of an eye, exhibiting an irregular thickening and brownish opacity of the retina.

From the Museum of George Langstaff, Esq.

3974. An eye, in which fluid collected between the retina and the choroid membrane, and the retina collapsed or was pressed into the form of a flattened cord, which is seen passing from the entrance of the optic nerve, and expanding on an opaque granular tissue on the posterior part of the capsule of the lens.

"*A Case of a Dropsy of the Eye, where the Water was found between the Choroid Coat and the Retina.*

"'I find, on enquiring, that he lost the sight of the diseased eye eight years ago, without his having either pain, inflammation, or any other cause of complaint, except a dimness in the appearance of objects. This last gradually increased for two years, at the end of which the eye became totally blind, and so remained till the time of his death. The dimness first came on after his having an inter-

mittent fever, which continued a considerable length of time, notwithstanding the use of a considerable quantity of Peruvian bark and of many other medicines.

"'I am, dear Sir, your obedient servant,

"'JAMES WARE.'

"The eye looked fair, except the appearance of a cataract; also, there was no motion in the pupil, and which was rather small. The eye was of its natural size, and, on opening it (viz. in dividing the sclerotic and choroid coats transversely), I found them distended, but not more than natural; and, on wounding the choroid coat, out flowed a very yellow-coloured water; and, continuing this incision all round, so as to divide it entirely, I found the retina collapsed into a white cord, passing directly through the centre of the eye, from its entrance to the anterior part, where it was attached to the crystalline humour and posterior surface of the iris, so [that] the water had separated the choroid coat from the retina; and, in proportion as the water had increased, the vitreous humour had decreased, or had been absorbed.

"We may consider this in another view; that the vitreous humour had lost its construction and become a fluid, and the water getting on its outside it collapsed. We can hardly suppose that the retina was first absorbed, and, as it was absorbed, the dropsy increased, or was a cause of the dropsy; but we can easily conceive the dropsy the cause of the absorption of the retina."—*Hunterian MS. Cases and Dissections*, No. 81.

3975. A similar specimen, described as "dropsy of the eye on the outside of the retina; the retina collapsed." *Hunterian.*

3976. An eye, in which the retina is collapsed to a smaller size than is natural, but retains its natural form, and has thin plates of bone imbedded in it. Its whole substance is thickened and opaque, and anteriorly it is continuous with what appears to be that portion of the hyaloid membrane which lies in contact with the posterior layer of the capsule of the lens, and which, like itself, is thickened and opaque. A tough white cord, a line in thickness, extends from the situation of the entrance of the optic nerve, straight through the middle of the space enclosed by the diseased retina, and, enlarging as it goes on, is attached to the thickened hyaloid membrane in front. It has the situation and relations of the canal of the arteria centralis retinæ.

From the Museum of John Heaviside, Esq.

Diseases of the Vitreous Humour.

3977. An eye, in which the vitreous humour has collapsed, and forms, with the thickened hyaloid membrane, a flat mass of opaque soft tissue at the back of the lens. The centre of this mass is connected by a slender cord, formed probably by the thickened canal of the arteria centralis retinæ, to the point of entrance of the optic nerve. The choroid, with its blood-vessels injected, appears healthy ; the retina, of which a part only remains hanging loosely in front of the choroid, was entire, but fluid had collected between it and the collapsed vitreous humour. The lens was opaque.

From a man who had been blind forty years.

Presented by John Quekett, Esq.

Diseases of the Lens.

3978. A cataract, extracted by Baron Wenzel.

"It was removed from the left eye of a clergyman of Exeter, aged 78, who had cataracts in both eyes, during a state of great inflammation and irritability of the organ. Mr. Hunter declined operating till the inflammation [probably glaucoma] could be subdued. The Baron saw no objection, and operated. The patient became totally blind in that eye. The intention of recording the case, Mr. Hunter observed, was to show, as far as one case could show, that we should not couch in cataract where there are disadvantages that we may reasonably suppose recoverable, of which inflammation is one. Where there are disadvantages that are not to be overcome by time and art (as probably small adhesions), and we may suppose a chance of doing good by the operation, then waiting answers no good purpose."—*Mr. Clift's Notes.*

Hunterian.

3979. Two hard cataracts, removed from a lady's eyes.

Hunterian.

3980. Parts of an eye, dried. The lens, converted into a mass of white, compact, earthy substance, nearly retains its natural size and form. Some irregular portions of earthy substance, also, extend from it into the vitreous humour.

Presented by James Wardrop, Esq.

3981. The eye of a Deer, from which Mr. Hunter extracted the lens. *Hunterian.*

3982. The other eye of the same Deer, in which, after the extraction of the lens, the retina collapsed, as in Nos. 3974, 3975. *Hunterian.*

3983. An eye, from which the cornea has been removed to show the consequences of an operation by which the lens was extracted many years before death. The pupil is closed with membrane, which has a dark brown colour, like the adjacent iris ; and a thick, opaque, white portion of lymph adheres to the front of the iris, at the lower part of the anterior chamber. *Presented by Dr. Goodfellow.*

Diseases involving the entire Eye.

3984. An eye, collapsed and atrophied after suppuration and rupture of the globe. A portion of the upper eyelid is adherent to the front of the contracted sclerotica.

"*A Case where there appeared to be an immediate translation of a Disease to another part, producing there different effects to those where it originally was.*

"Rachel Young, aged 64, for the first forty years of her life was a healthy strong woman. At that period the catamenia left her, and she became much the invalid by the attack of frequent giddiness of the head ; rheumatic pains seized the joints of her body every succeeding year, and were, in common, increased upon the advance of spring and autumn ; particularly remarking that she became more corpulent (though under these afflictions) than she had ever been previous to the attack.

"The common resource to remove these evils she had recourse to, and took a variety of remedies prescribed by many medical gentlemen in vain, in consequence of which she ceased from their use, having recourse only to some simple domestic opening medicines, to prevent the fulness of habit, by which she became much easier.

"On the 6th of April, 1781, a pain seized her right shoulder, and continued more troublesome than it had been for many years ; it remained in the same place for two days, then suddenly, and with astonishing quickness, darted into the very body of the right eye, which became so violent in twenty-four hours that she was frequently delirious. About the twelfth hour after the first

attack of pain in the eye, she had the assistance of bleedings from the arm and temples by the lancet, and by leeches from the upper part of the head; a blister was applied between her shoulders; and fomentations and poultices, of the emollient and sedative kind, were externally applied, and opiates, in proportion to the pain, internally taken; together with gentle sudorifics, in order to promote perspiration and lessen heat.

"The pain continued but with little intermission till the 9th. The eye then appeared (as well as every other part within the orbit) to be so extended that the space was no longer sufficient to contain it; and on the 11th the whole swelling was pushed out considerably from the socket, and then she became somewhat easier. The pupil of the eye was very large and open: the humours were thickened; and a large fungous excrescence grew from the inside of both the upper and lower eyelids, discharging from its surface a great quantity of a greyish fluid.

"In this state the patient's pulse was so singular as to give but little information as to her strength—sometimes quick, sometimes slow; sometimes small, quick, and weak, and at others full, regular, and strong; heat of the body but little, and having but a small degree of thirst.

"The day following, upon removing the dressings cautiously, there appeared plainly to be an abscess formed in the cavity of the eye, and [it] had opened its way through the cornea, and matter was discharging from it; and, in consequence thereof, the general symptoms were lessened, and the swelling and inflammation abated. The parts each succeeding day became smaller and smaller, and the discharge daily lessened, till the eye seemed shrunk away and the parts entirely collapsed. The upper eyelid fell down over the cavity, resting upon the lower, and completely covered the remains of the disease.

"During this period she was supported, and, with the assistance of bark, gentle exercise, and free air, she was perfectly recovered of her health; and, till May 1782, she was able to walk several miles a day, and go about her accustomed domestic avocations, when she became subject to frequent long, deep, and unaccountable respirations; was considerably weaker in her limbs, though her aspect at that time was good. These continued for a fortnight. On the 15th of the same month, not coming down to breakfast as usual, the servant was sent up, when she found her without motion and speechless in bed.

"The medical aid of Dr. Pitcairn was called in, and the disease by him was called palsy; and, from her then apparent situation, it seemed as if the attack bore more the resemblance of apoplexy than palsy. In the space of twenty-four hours, the means made use of so far recovered her that she gained the use of the left side; the limbs of the right continued for near a week unable to do their office, during which time she recovered her faculty of discovering objects, distinguishing them particularly, and had a thorough knowledge of questions put to her; but her articulation continued so bad that her answers could only be known by the joint signs

she made use of, at the same time plainly showing a judgment wonderful under such an affliction.

"By the repeated use of electricity, the right arm and leg were so strengthened and animated that, in about a month, she was able to walk about and enjoy fresh air. From the first seizure she had two attacks again of the disease, but so weak as only to confine her for a day or two.

"On the 8th of this month (July 1782) she was found in a similar situation as on the first seizure, and expired in a few hours.

"Upon examination of her brain after death, the following were the appearances:—On dividing the scalp &c., the blood which came from the divided vessels was fluid; nor had it the least disposition to coagulate after being exposed some time.

"The dura mater adhered so firmly to the skull, as made it almost impossible to separate them. The pia mater, on the upper part of the cerebrum, was loaded with a transparent fluid. The substance of the brain seemed not quite so firm in texture as in common, and there seemed a greater quantity of fluid in the left ventricle than what is natural, which was tinged with a mixture of whitish matter; and on the anterior part of the ventricle, the brain appeared not so firm, but rather as if mashed. All the other parts appeared quite sound.

"The parts about the eye were consolidated by inflammation, and the remaining part of the sclerotic coat that was left was united to the eyelid all round, so that there appeared but one half of the globe of the eye left.

"Was this a translation of the disease? Did the eye sympathize with the shoulder, and take on the whole action? Or was there a constitutional disposition to produce action somewhere, and, after wandering about, it at last fell upon the eye, producing inflammation, although it had not produced this mode of action anywhere else? And did the same constitutional affection recur, and afterwards fall upon the brain?"—*Hunterian MS. Cases and Dissections*, No. 83.

3985. An eye, extirpated after twenty-two years' disease, from a man sixty-five years old. All its tissues appear thickened, indurated, opaque, and consolidated. The place of the vitreous humour is occupied by a mass of whitish substance. The papillæ of the conjunctiva are enlarged.

The patient received a kick from a horse on the supra-orbital region, which destroyed the vision in the corresponding eye. From that time he had frequent attacks of pain in the eye; and, twelve years afterwards, fistulous openings formed in several places around the eyeball, from which a constant discharge issued. After this had continued for ten years, and his health had begun to fail through the irritation and discharge, and occasional hæmorrhage,

the eye was extirpated; and, on examining the orbit, it was found that the whole of the orbital plate of the frontal bone had been destroyed, so that the finger could rest on the dura mater beneath the anterior cerebral lobe. The patient completely recovered, and lived long after the operation.

From the Museum of Robert Liston, Esq.

Morbid Growths.

3986. An antero-posterior section of the left eye, extirpated from a child three years old. The sclerotica is complete, but distended; the cornea is thickened and opaque. The whole globe is filled with a glioma. At the posterior part of the globe (the upper part as the preparation is placed), the morbid substance appears loose and finely spongy, with an obscurely fibrous texture, and forms a distinct globular mass, which is separated by a narrow space from the morbid substance which fills the anterior part of the globe. In the space by which they are separated, is seen the section of the choroid pushed forward by the posterior growth. In front of the choroid, and between it and the sclerotica, the morbid substance fills all the rest of the globe, and has pressed the lens and iris flat against the cornea, which, though soft, is compact; and the surface of its section is uniform and smooth. *Hunterian.*

3987. The other half of the same eye. The morbid substance, with which the anterior part of the globe was filled, has been removed, exposing more clearly the choroid separated from the sclerotica by the posterior morbid growth, and showing the rest of this growth attached at the entrance of the optic nerve. *Hunterian.*

3988. The right eye of the same child, with the optic nerves, their commissure and origins, and a glioma that filled the orbit from which the left eye was removed.

The history of the patient from whom these specimens were taken is given at great length in "The Case of a Diseased Eye," by Mr. Hayes, Surgeon, in the 'Medical Observations and Inquiries,

by a Society of Physicians in London,' vol. iii. p. 120 (London, 1767); and the account of the examination after death, made by Mr. Hunter, will best explain this last preparation. "We found more water in the left ventricle than in the right; on raising the anterior lobes of the cerebrum, the right appeared quite sound, but the left was red, and some extravasated blood lay on the orbital process of that side. We then cut off the right lobe, and laid bare the optic nerve of that side, which we found in all appearance perfectly sound; but the left lobe, which was found diseased in its substance, adhered to the optic nerve, internal carotid artery, infundibulum, and the glandula pituitaria, so that we were not able to distinguish any separation of these parts. We therefore took out all these parts, with the optic nerves, the right eye, and the tumour in the orbit of the left side, whole and joined together. Mr. Hunter then inverted them, and examined the optic nerves on their under surfaces; that on the right seemed perfectly sound through its whole length, but on the left, what was the optic nerve could not be distinguished from the substance of anterior lobe and glandula pituitaria which adhered there. He then cut into the tumour, that had lain in the orbital foramen, to see if he could trace it on to the brain, but he could not find any appearance of a nerve; he afterwards began at the union of the optic nerves, to try if it could be traced from thence to the foramen, but it could hardly be said that there was any continuation of it from this part.

"We observed that the disease in the nerve had proceeded no further towards the brain than the union of the two nerves; but it had gone so close to that union as to appear just as if no nerve had ever been given off at that part; both nerves seemed sound before, and at, their union. The thalami were likewise sound. The tumour, which was in the left orbit, had an external covering everywhere, of about one eighth of an inch thick, and within that was a brownish substance, that seemed to have no direction of fibres, and appeared as if glandular; yet it was not so smooth or solid in texture, but more spongy or loose. Mr. Hunter observed that he had always found this sort of texture in scirrhous testicles, breasts, &c., when not of the gristly kind, such as often arise in wens, white swellings, or from the remains of inflammation.

"The optic nerve of the right eye seemed quite sound through its whole length; the eyeball, when cleared of the muscles, cellular membrane, &c., had just the common appearance. Mr. Hunter took off the upper part of the sclerotica, choroides, and retina, with as much of the vitreous humour as was contained in this section, and, by that means, exposed the cavity of the eye.

"We found the coats and retina perfectly sound, and the crystalline humour, in its place, firm and transparent; but in the place of part of the vitreous humour was a whitish curdly substance, which lay in the posterior and outer part of the cavity, and had pushed the vitreous, that remained, to the anterior and inner part of it. Whether this whitish curdly substance had been formed on the outside of the vitreous humour, and had pushed it

to the inside, or whether this substance was produced in the humour itself, which was wasted in proportion as that matter was formed, is not very easily determined; but the latter seems most probable, for it appeared as if the vitreous humour was continued into this substance, or, as it were, entangled in it. This substance was as much detached from the retina as the vitreous is in common."

The disease had been in progress about three years. The child appeared healthy; but, when she was fifteen months old, her parents observed something unusual in the appearance of the left eye; it looked glass-like, and this increased till they "could see to the bottom" of the globe. After this had been noticed for ten months, an attack of acute inflammation of the eye occurred, and, when this ceased, the sight, which had gradually become less, was completely gone, and the eye had lost all its natural external appearance, as well as the peculiar aspect which it had before. It now very slowly enlarged, having previously been rather smaller than the other eye, and, passing its natural size, became very prominent and painful. Mr. Hunter, who was now consulted, recommended that the contents of the globe should be discharged; but, on attempting this, they were found to be solid, and the eye was therefore extirpated. The child, whose general health was excellent, quickly recovered from the operation, after which cicuta was administered.

Nearly three months before the extirpation of the left eye, the parents of the child observed in the right eye the same appearance which the left had presented at the commencement of its disease. When looked at obliquely from the nose towards its outer angle, it seemed to have lost the deep black appearance, and to have "acquired a more clear bright look, something resembling the cat's eye in the dark." Within three months after the operation, the disease in the right eye had so advanced that vision was almost completely lost, and a loose spongy growth had sprung up from the bottom of the left orbit, and appeared to increase more rapidly after it was necessary to discontinue the use of the cicuta. From this time the disease in both parts made speedy progress, attended by extreme pain, occasional convulsions, and paralysis of the lower extremities; but the intellect remained unimpaired till death.

3989. An antero-posterior section of an eye, together with a portion of the posterior and outer wall of the orbit. The whole globe of the eye is distended, so that its several parts cannot be discerned, by a white brain-like growth, probably a glioma, which in some parts appears softened, and in some blood-stained. The growth formed a large mass, projecting between the extended eyelids and protruding through a part of the front of the globe. A similar morbid substance, growing outside the globe and optic nerve, occupies

the posterior part of the orbit; but none extends to the interior of the skull. *Presented by Edwin Canton, Esq.*

3990. The other section of the same eye, and of the tumour within it. *Presented by Edwin Canton, Esq.*

3991. The two eyes of a child, connected by the optic nerves. In one eye the vitreous space is filled by a soft glioma, but the form and relative position of the membranes are not much changed. In the other eye a similar growth occupies the interior of the cavity, and a large space formed between the sclerotic and choroid by the displacement of the latter inwards. It surrounds also the sclerotic in the posterior half of the globe. The nerve of this side is enlarged to more than double its normal size, by deposit within it of the same morbid substance, and the optic chiasma is similarly enlarged to the size of a hazel-nut.

Presented by Edwin Canton, Esq., 1866.

3992. A left eye (bisected in the antero-posterior direction), with part of the base of the brain of a boy seven years old. Scarcely any of the parts of the eye can be discovered; for nearly the whole orbit, as well as the eyeball, was filled with soft glioma, which, after making its way through the cornea, everted and protruded between the eyelids. At the upper part of the preparation a portion of eyelid is shown, with the conjunctiva stretched over the protruding mass. Traces of the sections of the optic nerve, filled with the same substance, may also be seen; and two of the recti muscles, not involved in the mass, are shown. The parts preserved from the base of the brain are softened and flocculent; they appeared, when first examined, to be all infiltrated with medullary matter, some of which is seen in connection with the left optic tract.

The disease was not observed till a few weeks before death. Shortly after the discovery of blindness on the diseased side, the growth protruded, delirium and fever ensued; and three weeks afterwards the child died. Similar medullary disease was found in some of the ribs, and in the lymphatic glands of the anterior mediastinum.

From the Museum of George Langstaff, Esq.

3992 A. Half of the eye of a Bonnet Monkey filled with a glioma.

Presented by J. Bland Sutton, Esq., 1885.

3993. Sections of an eye, of which the globe is elongated and distended by a large lobed mass of a pale morbid substance, probably sarcomatous, composed of numerous round portions, surrounded by thin cellular partitions. At the upper part of the preparation is the conjunctiva, through which a considerable portion of the morbid substance has protruded, and forms a flocculent fungous growth.

Presented by Sir Everard Home.

3994. A large tumour, probably sarcomatous, which commenced its growth in the eye, and protrudes from the orbit in a great spheroidal mass, everting the eyelids and unfolding the conjunctiva. None of the textures of the eye can be discerned. *From the Museum of John Heaviside, Esq.*

3995. A right eye, considerably enlarged by the growth of a soft spongy mass, originally of a brownish colour, which fills the whole cavity of the globe, and at one part (near the left border of the upper section) causes a broad protrusion of the sclerotica. A bristle is placed in the sheath of the optic nerve, which is diminished in size, and, directly after the removal of the eye, had a dusky brown colour.

Hunterian.

3996. Part of the base of the brain, with the optic nerves, of the woman from whom the eye last described was extirpated.

"*Cancer.*

"Mary Cornish, aged 53, came to St. George's Hospital with a diseased eye. The whole globe of it was exceedingly enlarged, and seemed to protrude beyond the orbit; the colour was of a Modena red, or rather brownish, and every external part was so confused, that it could, but for its situation, scarcely be thought an eye. On consultation by some of the surgeons it was deemed cancerous, as she had constantly violent pains in it. As there appeared no disease in the surrounding parts, but [the eye] was freely

detached from the orbit, and, whether cancerous or not, it seemed evidently one of those diseases where medicine could be of no service, it was thought right that it should be removed. Accordingly, at noon on Monday, November 5, 1781, the operation was performed, immediately after which she took forty drops of laudanum. She remained very quiet and easy till the evening, when a hæmorrhage came on, by which she lost perhaps thirty ounces of blood, but which was suppressed by a compress and a roller moderately tight. At night she had an opiate with thirty drops of laudanum, which was continued till Thursday, during all which time she remained pretty well: she now complained of pain in her head; and an erysipelatous inflammation had begun to take place, which by the evening had diffused itself over the whole face and neck on that side.

"I ordered one scruple of bark, with eight drops of laudanum, to be taken every two hours, and the parts to be fomented. Friday, the pain in her head grew worse. Saturday, she was dressed; no particular appearance in the orbit; delirium came on. She was now ordered an additional quantity of opium, which seemed to quiet her. Sunday and Monday delirious at intervals and exceedingly peevish.

"Monday night, her opiate was omitted. Tuesday morning, very much worse, with a frequent, but not very hard, pulse. I now gave her eighty drops of laudanum, which composed her till about four o'clock in the afternoon, when she became exceedingly violent, imagining that every one who came near intended to murder her, and would not swallow anything that was offered her. In the evening a blister was applied between the shoulders, and mustard poultices to her feet. Wednesday morning, still very violent; in the evening, much quieter, which did not appear to arise from the disease growing better, but from her strength being less. She continued in this state till midnight, when she died.

"*On examination* of the brain after death, the optic nerve of the diseased side (from the foramen opticum to where both form a ganglion, but no further) was much degenerated, being scarcely above half the size of the other. The colour, instead of a beautiful white, was become of a dusky brown, with a kind of semitransparency, which certainly was not in consequence of the operation, as that portion of the nerve which was attached to the eye when extirpated was in a similar state exactly. No other appearance of disease whatever was found either in the brain or elsewhere, from the most accurate examination.

"Quere, Was this diseased nerve capable of conveying sensation?"—*Hunterian MS. Cases in Surgery*, p. 144.

3997. Sections of an eye, of which the lower half of the globe is filled with a soft and well-defined sarcoma, firmly fixed by a broad base to the sclerotica. The substance of the

tumour is generally pale, but is in some parts darkened by pigment. The retina is raised by the growth of the tumour, and the iris is pressed into close contact with the cornea. Below and at a shorter distance from the outer edge of the cornea, the morbid growth protrudes through the sclerotica, and formed during life a conical projection beneath the conjunctiva, which was covered with hard yellow crusts.

The patient was 58 years old. The disease had existed two years, having commenced with dimness of vision and frequent lancinating pains. Four months before the eye was extirpated, the tumour was first observed like a deep-seated opacity in the posterior part of the eye. The patient lived two years after the operation, and died with pericarditis, but had no return of the disease.

From the Museum of Robert Liston, Esq.

3998. Section of an eye, completely disorganized by the growth of sarcoma containing pigment from its posterior part, both within and outside the sclerotic. The globe has collapsed from the escape or absorption of the humours, the space occupied by which is only partially filled by the new growth. *Presented by Edwin Canton, Esq.*, 1866.

3999. A portion of the left side of a head, with the orbital cavity containing a large lobed melanotic sarcoma, which probably originated in the eye. It fills and protrudes from the orbit, its anterior surface being horizontally constricted by the margins of the eyelids. It fills the temporal fossa, and having caused absorption of the bone, forms a large lobed projection beneath the dura mater of the anterior and middle fossa of the cranial cavity. The eye cannot be distinguished in the sections which have been made, but a vertical fibrous partition is seen between the orbital and temporal portions. The surface of the section is mottled from pale buff to deep red, probably from extravasated blood in the substance of the growth, and there are spots and streaks of melanotic matter.

Presented by Edwin Canton, Esq., 1862.

4000. An eye of which the globe is nearly full of a soft, dark, and probably melanotic sarcoma. *Hunterian.*

4001. Section of an eye, the posterior part of which is filled with a sarcoma, variously shaded with melanotic matter. The greater portion of the morbid substance is in a compact mass, the cut surface of which is smooth, though cracked; but at the upper part it appears to have been formed in a cyst, of which only a small part is filled with it. The lens and iris are pushed nearly into contact with the cornea. The lens was opaque; its capsule is thickened; the sclerotica also is thickened, and there is no trace of retina or vitreous humour. The optic nerve appeared shrunk and flattened.

The patient was a man 52 years old. The disease had existed two years, and had never been very painful. The eyeball protruded, and the conjunctiva appeared studded with black points. In the extirpation of the eye several small melanotic tumours were found imbedded in the tissues around the globe. The patient recovered from the operation.

From the Museum of Robert Liston, Esq.

4002. An eye, from which a piece of the sclerotic and other tunics have been removed, to show a melanotic spindle-celled sarcoma of its choroid. The growth occupies the whole outer side of the vitreous space from the region near the optic nerve to the posterior surface of the crystalline lens. It was covered by a slightly opaque retina, easily peeled-off from it. It is of a brownish-black colour and uniform texture.

Microscopic examination showed that it consisted entirely of cells of two types:—1, Spindle-shaped or sometimes multipolar cells, more or less pigmented; 2, highly pigmented round cells.

From a needlewoman, a widow, 60 years of age. A defect in her sight had been noticed for a year before she came under treatment. Four or five days before, she struck the eye, and the dimness of sight then increased, and the eye began to pain her. None of her relations was known to have suffered from cancer, nor had she any cachexia. She was well nourished, and of dark complexion;

the pupil was slightly irregular. The eyeball was tense and painful, and vision was lost over the lower and inner part of the field. The eye was removed in January 1876, and fourteen months after, there had been no return. (Path. Soc. Trans. vol. xxviii. 1877, p. 210.)

Presented by W. Spencer Watson, Esq., 1877.

4003. An antero-posterior section of an eye, the globe of which is filled and surrounded with a sarcoma, in part melanotic. Slight traces only of the eye can be discerned; but, by following the section of the optic nerve, the outline of the sclerotica may be traced in the midst of the morbid mass, compressed by that which is on its exterior, and, probably, also contracted through former inflammation and shrinking of the globe. Nothing can be seen of the iris, cornea, or any of the internal parts of the eye. The greater part of the morbid growth is compact, uniform, and of a pale white colour, like the medullary substance of a firm brain. But in various parts melanotic matter is deposited in it, dotting and streaking it with shades of grey and black, and in a few places forming small deep-black masses. The optic nerve is small, and has melanotic matter within it.

The patient was a woman 50 years old when the eye was extirpated. Seven years before, she lost the sight of this eye from inflammation. Three months before the operation, she felt a heaviness and sleepiness, with a sensation of weight in the eyebrow and pain in the cheek. The eyeball soon after protruded, and appeared nodulated, with large tortuous vessels running over its surface. The conjunctiva of the lower part of the bulb and of the lower eyelid became chemotic, but there was not much pain in the eye. A fortnight after the extirpation of the eye, a small melanotic tumour was found above the umbilicus, which was removed. But other similar tumours formed in various parts of the body; and, about five months after the operation, the patient died with cerebral affection, consequent on the growth of a large medullary tumour in the right hemisphere of the cerebrum.

From the Museum of Robert B. Walker, Esq.

4004. Section of an eye, of which the globe, somewhat collapsed, is filled with a sarcoma, shaded in various degrees, and in parts made uniformly deep black with melanotic matter. Besides filling the globe of the eye, the growth protrudes

through the lower part of the sclerotica, and forms an oval mass, mottled black, grey, and white, below the globe, as large as that within it. The globe is so filled that none of its natural contents can be discerned, except the lens, which is pushed upwards and forwards, and is opaque and misshapen. [As the eye is now placed, the direction of its axis is obliquely from above downwards, and from right to left.]

Presented by George J. Guthrie, Esq.

4005. The other section of the same eye and tumour.

Presented by George J. Guthrie, Esq.

4006. The contents of an orbit, and part of the base of a brain, from a case of melanotic sarcoma of the eye. No trace of the structures of the eye can be discerned, except the sclerotica, which is irregularly distended with a deep-black soft substance. This, after filling and distending the globe, grew through its anterior part, and protruded in a great mass from the orbit, partly covered with the conjunctiva, and partly projecting through it. A similar black substance extends within the dilated sheath of the optic nerve into the skull, and there forms an irregular knobbed tumour, nearly two inches in diameter, which lies beneath the anterior lobe of the cerebrum, and is partly imbedded in it.

From a woman 45 years old. Her general health was not much affected till a few weeks before death, when symptoms of cerebral disease ensued; and she died comatose about eighteen months after the first appearance of the disease.

Two melanotic tumours were found in the liver (preserved in No. 2774), and a tumour in the left parotid gland.

From the Museum of George Langstaff, Esq.

4007. An eye, from a Horse, extirpated after death. The whole globe is filled with a melanotic sarcoma, which also protrudes through the front of the globe, everting the conjunctiva and the eyelids, and forming outside the orbit a large black and grey mass, with irregular cells, and softened melanotic substance in its interior.

From the Museum of John Heaviside, Esq.

Diseases of the Orbit.

4008. A tumour, removed from an orbit: it is suspended by the lachrymal gland, which was removed at the same time. The tumour is of an irregular oval form, and measures an inch and a quarter in its chief diameter. It appears firm, pale, and obscurely fibrous; near one surface of it is a small mass of coagulated blood, now decolorized.

The patient was a man 26 years old. The tumour displaced the eye, and destroyed vision; but, after its removal, the eyeball regained its natural position, and vision was restored.

From the Museum of Robert Liston, Esq.

4009. Section of an eye, with part of a tumour surrounding it. The tumour appears to have filled the orbit; it completely encloses the eye and optic nerve, and extends forwards nearly as far as the reflection of the conjunctiva; at one situation, near the optic nerve, it has pressed-in a part of the sclerotica and the other coats of the eye. Its texture is pale, dense, and obscurely fibrous. The optic nerve, laid open in its whole course through the tumour, is filled by a compact yellowish substance, and has lost all trace of nervous structure. The eye itself appears healthy.

From the Museum of Robert Liston, Esq.

4010. An irregularly lobulated tumour removed from a right orbit. Its section shows the spongy texture of an erectile tumour.

From a lad aged 15, in whom the tumour had been growing six years. It had pushed the eyeball straight forwards out of the socket, and in addition to the annoyance from the persistent proptosis, the lad was liable, on the slightest irritation of the face, to have the globe so much ejected that the lids were spasmodically contracted behind it: these attacks gave him great pain, and for fear of them he would allow no one to touch the lids. The optic disc was quite white, and the eye blind. The boy was in good health; he had no enlargement of the glands, and there was no cancerous history in his family. The eyeball was removed on account of the disfigurement and the attacks of spasm. Behind it was found a large tumour which fitted into the apex of the orbit, and sur-

rounded the optic nerve. It did not pulsate, was well circumscribed, and its loose lateral adhesions were easily broken through with the finger. This done, its attachment at the optic foramen, which was quite narrow and probably consisted of the optic nerve itself, was cut through with scissors. Moderate bleeding followed, which was easily restrained by pressure. The part healed after profuse suppuration in the orbit, and abscess in the lid, and the boy regained good health. The tumour was somewhat lobulated, and some parts were much more solid than others. The greater part of its structure exactly resembled, on section, that of the corpus cavernosum penis; it had a tolerably strong fibrous envelope. Its erectile nature was confirmed by the microscope.

Presented by Jonathan Hutchinson, Esq., 1870.

4011. A cyst of considerable thickness, which contained a cysticercus cellulosæ. The hydatid is now enucleated and suspended from the cyst in the soft parts which contained it.

The patient, a girl of 14, had had pain in the right eyeball for a month, and soon after the onset of pain the eye began to protrude. When she came under observation the eyeball was pushed downwards and somewhat protruded. The power to move the eyeball upward was quite destroyed, but the rest of the movements were perfect. She could read Snellen type 10. The optic disc was red, greatly swollen, and bulging into the vitreous humour. The retinal veins were large and tortuous. The arteries were small; there was no pulsation in the swelling, no pain. It was supposed to be a growth of some kind in the orbit. After being watched for about a month, during which time the eye and lid became much inflamed, and the eye continued to protrude more, an incision was made from the inner to beyond the outer angle of the orbit. The lachrymal gland was thus exposed, and was removed. Deeper down, a mass was found attached to the levator palpebræ or superior rectus. It was found possible to detach this with the handle of the scalpal, and in so doing, it suddenly collapsed, and there was free hæmorrhage, but no fluid of any other kind than blood was seen to escape. The mass extended quite back to the optic nerve, and pressed upon that part. When enucleated it was found to be a thick-walled inflammatory cyst, containing a thin, pellucid, easily separable, cysticercus cyst. The wound had healed six days afterwards, the eyeball was sound and the sight good; but there was no power of raising the lid.—*MS. Notes*, vol. ii. p. 234.

This case is also recorded in the 'Transactions of the Clinical Society,' 1877.

Presented by Charles Higgens, Esq., 1876.

Diseases of the Eyelids.

4012. "A diseased eye and eyelid" (*Hunterian MS. Catalogue*). The specimen consists of a large piece of thick membrane, smooth and polished behind, and with its internal surface resembling conjunctiva. Behind this and fixed to it are parts of a small eyeball. The eyeball has been opened from behind; an optic nerve, sclerotica, and retina are shown in front; it is completely covered by the membrane just mentioned, and there is no appearance of cornea, iris, or, at this part, of any eyelids; but, half an inch from the ball of the eye, there is a narrow slit in the membrane, like an aperture between eyelids imperfectly formed.

Nothing is known of this singular preparation beyond what is quoted from the MS. Catalogue. Probably it was a congenital malformation.

4013. A very small dermoid cyst, filled with yellowish granular fatty matter, and some hair.

It was removed from under the skin of the eyebrow. It was connected by cellular tissue with the skin, and had no communication with the hair-bulbs of the brow. See "An Account of a Particular Change of Structure in the Human Ovarium," by Matthew Baillie, M.D., in the 'London Medical Journal,' vol. x. p. 329, 1789.

4014. An upper eyelid, with a small dermoid cyst.

From Bellingham, the murderer of the Hon. Spencer Perceval.

From the Museum of George Langstaff, Esq.

4015. A similar cyst, three-quarters of an inch in diameter, from an eyelid. *Hunterian.*

4016. A dermoid cyst, removed from an upper eyelid. The greater part of its contents, which consisted of a substance like soft cheese, have been removed. Its internal surface is remarkably sacculated and reticular with minute ridges or folds. *Hunterian.*

It is most probable that the following case is that of the specimen just referred to. It is contained in a manuscript volume of 'Cases in Medicine, and Cases in Surgery,' by Sir Everard Home:—

"*An Encysted Tumour of Oil in the Orbit.*

"A young gentleman had a small tumour appearing in the upper and under part of the orbit, which at first was no larger than a pea, but increased in size, becoming more oval, and extending towards the nose. It was situated between the bony orbit and the upper eyelid, which it had pressed down, keeping that eye half shut, but unattended by pain, except when engaged in reading by candle-light there was an uneasiness and throbbing in the eye.

"The tumour evidently contained a fluid, was not attached firmly to the inner side of the orbit, but seemed formed in the cellular membrane; upon opening it, the contents were pure oil, perfectly clear and sweet, burnt with a very clear light, and did not mix with aqueous fluids, and, when exposed to cold, became as solid as the human fat.

"This appears, therefore, an encysted fatty tumour, differing from fatty tumours in general; there being no cellular membrane formed, only the oil deposited."

For further illustrations of Injuries and Diseases of the Eye in this Museum, reference may be made to the Series of Specimens prepared by Mr. Charles Bader, and described by him in a separate Catalogue; also to a Series of Specimens of Glaucoma, which accompanied Mr. Priestly Smith's Jacksonian Prize Essay.

Series XLVII. INJURIES AND DISEASES OF THE SKIN AND ITS APPENDAGES.

Œdema: 4017, 4018.
Hypertrophies: 4019 to 4039.
- Corns: 4019 to 4025.
- Ichthyosis: 4026.
- Congenital Hypertrophy: 4027, 4028.
- Elephantiasis Arabum and Lymph-scrotum: 4029 to 4030 A, 4031 ?
- Elephantiasis Græcorum, true Leprosy, Lepra anæsthetica: 4032 to 4035.
- Sporadic Elephantiasis and simple hypertrophy, or hypertrophic Elephantiasis: 4036 ? to 4036 B ?, 4037, 4038, 4104 to 4106.
- Ainhum: 4039.

Pigmentation: 4040, 4028.
Gouty Deposits: 4041, 4041 A.
Eruptions: 4042 to 4047.
- Pityriasis: 4042.
- Exanthemata: 4043 to 4047.

Ulceration: 4048.
Cysts and Morbid Growths:—
- Dermoid Cysts: 4049 to 4051.
- Doubtful Cysts: 4052, 4053.
- Proliferous Cysts: 4054 to 4056.
- Keloid: 4057 to 4059.
- Granuloma: 4060.
  - Syphilitic: 4060?
  - Lupoid: 4078?
- Molluscum Fibrosum: 4061 to 4062.
- Fibrous Tumour: 4063 to 4068.
- Adenoma: 4069 to 4071.
- Papilloma: 4072 to 4078.
- Sarcoma: 4079 to 4081.
- Melanotic Tumours: 4082 to 4084.
- Epithelioma: 4085 to 4087.

Parasitic Diseases: 4088 to 4095.
- Tinea Favosa: 4089.
- Mycetoma: 4090 to 4095.

Diseases of the Appendages of the Skin: 4096 to 4129.
- Nails &c.: 4096 to 4103.
  - Overgrown and malformed: 4096 to 4100.
  - Overgrown hoofs: 4101.
  - Onychia maligna: 4102.
  - Overgrown and deformed beaks: 4103 to 4103 D.

Sebaceous Glands: 4104 to 4125.
Hypertrophy of Nose: 4104 to 4106.
Sebaceous Cysts: 4107 to 4118.
Follicular Horns: 4119 to 4125.
Hair: 4126 to 4129.
Plica Polonica: 4126 to 4128.
Widow's Lock: 4129.

Œdema.

4017. Section of the foot of a man, whose lower extremity was amputated at the hip joint, in consequence of extensive necrosis of the femur. The integuments are much thickened by œdema, and are at the same time indurated, so that they present the characters of what has been called "solid œdema." The bones, muscles, and other tissues are soft and greasy. *From the Museum of Robert Liston, Esq.*

4018. A longitudinal section of the anterior part of the foot of a child, with solid œdema of the subcutaneous tissues. The foot was amputated. *Presented by John Avery, Esq.*

Hypertrophies.

4019. Part of a foot, from the sole of which a portion of the epidermis has been reflected, to show, on its cut edge, a section of a corn, or circumscribed thickening of its substance. The corn presents on its lowest surface a thin layer of pale epidermis, like that which forms the deepest layer of the healthy epidermis, but depressed towards the cutis; above this are a succession of layers very compact, dark, and horn-like, yet exhibiting traces of the vertical lines produced by the ducts of the sweat-glands passing through them; over these, and nearly on a level with the surface of the surrounding healthy epidermis, is another thin pale layer; and lastly, on the surface of this, an accumulation of apparently half-

detached scales. The great toe is turned outwards, and part of its nail rests in a depression on the back of the second toe. *Hunterian**.

4020. A similar preparation, most probably from the same patient. The depression in the cutis, in which the corn was imbedded, is shown. The positions of the great toe and its nail are the same as in the last specimen.
Hunterian.

4021. Section of the sole of a foot, with a very small corn formed by a circumscribed mass of hard epidermis, which is imbedded in the surrounding healthy epidermis, but exhibits a line of separation all round it. *Hunterian.*

4022. A toe, from which part of the cuticle has been reflected with a corn which was situated on the dorsal surface of its first articulation. The corn consists of a circular slight thickening and induration of the cuticle, in the centre of which there is a small and very hard mass, separated from the rest by a narrow groove, and projecting inwards. The depression of the skin, in which the corn was imbedded, is shown, and presents an exact mould of its form.
Hunterian.

4023. The cuticle of a toe, separated with a corn, and inverted. A short dark process of horn-like substance projects outwards from the middle of the corn. *Hunterian.*

4024. The toe of a Fowl, with a corn upon its margin.
Hunterian.

4025. A toe, on the back of which there is a corn over the first articulation, and beneath the corn a small bursa. The corn is reflected with the cuticle, and the bursa is shown by a lateral section. *Hunterian.*

* See a quotation from Mr. Hunter's Lectures on this subject in vol. i. p. 4.

4026. Portion of skin, from a leg affected with ichthyosis simplex. Small round or polygonal nodules of diseased cuticle, very closely arranged, form a kind of tesselated incrustation on the surface. The subjacent cutis, exposed by the removal of some nodules, is hard, rough, and covered with a thin layer of cuticle. *Presented by Dr. Diamond.*

4027. The inner half of a left foot, with extreme enlargement of the sole from hypertrophy of the skin and subcutaneous tissue, which is thrown into prominent transverse folds with intervening fissures. The hypertrophy is limited to the sole, the altered skin projecting in curved lobules around the sides of the foot. The extremity of the great toe is ulcerated as the result of an operation for the removal of the hypertrophied tissue at its extremity; the other toes are turned upwards, and present a hypertrophy of the skin of their extremities similar to that of the skin of the sole, but of softer consistence.

By microscopical examination the hypertrophy was found to be mainly due to thickening of the corium, which was made up of tortuous bands of fibrous tissue, with intervening spaces, into which the lymphatics opened. The cuticle was also thicker than normal, and the papillæ were obliterated. The lymphatic channels were not dilated, and did not appear more than usually numerous.

The foot was removed, on account of its cumbrous weight, from a well-nourished young woman, aged 24 years, whose intelligence was somewhat deficient. Her left foot had been enlarged out of proportion to the other limbs since birth, but during the seven or eight months before the operation it had rapidly increased in size. Enlargement of the sole of the right foot had been observed four months; it presented only a slight degree of the morbid change shown in the other foot.

She died shortly after the operation; and in the post-mortem examination many abnormalities of growth were found in addition to others which had been observed during life: several "osteophytes of the size and shape of peas" were attached to the surface of the dura mater. The whole of the left side of the brain and medulla oblongata was larger than the right. The left side of the face and the left half of the lower jaw and tongue were distinctly larger than the same parts on the right side. A fibrous tumour, about 1 inch in diameter, was attached to the outer side of the left cornea, growing from the sclerotic. A large fibrous epulis sprang from the left side of the upper jaw. The uterine mucous membrane was everywhere covered with a thick villous

growth; and to the upper border of the left patella a large osseous growth was attached. (See MS. Notes, vol. iii. p. 187, and Trans. Path. Soc. vol. xxxiv. 1883.)

Presented by Francis N. Macnamara, Esq., 1881.

4028. A "mole" of considerable thickness and an inch and a quarter in diameter; it is minutely papillary on the surface, slightly pigmented and covered with thick short hairs of a light-brown colour.

Removed from the middle of the chin of a girl aged 15.

Presented by John Gay, Esq., 1880.

4029. A small portion of a "lymph-scrotum," with a female filaria sanguinis hominis protruding from a dilated lymphatic vessel. The filaria is placed on a black ground to render it more conspicuous.

4029 A. A portion of a much-thickened scrotum, affected with elephantiasis Arabum, from a case in which filariæ were found in the blood. (See Trans. Path. Soc. vol. xxxii. p. 285.)

Presented with the preceding by Dr. Manson, 1881.

4030. The inner half of the left foot of a negro, affected with elephantiasis—the so-called Barbadoes leg. The cuticle, especially of the sole of the feet, is much thickened. The corium is greatly hypertrophied, attaining on the lower part of the dorsum of the foot the thickness of $1\frac{1}{2}$ inch. The surface is covered with fine papillæ, which, with their thick covering of epithelium, give a papillary character to many parts of the exterior. The deeper portions of the corium contain much fat, and the bones are infiltrated with similar substance.

Removed by Mr. Fiddes from a middle-aged negro. (Trans. Path. Soc. Lond. vol. xiv. p. 258.)

Presented by Sir Henry Thompson, 1863.

4030 A. The other half of the same foot, showing the appearances on section. The increased vertical thickness of the skin is seen at all parts.

Presented by Sir Henry Thompson, 1863.

4031. A portion of skin from the foot of a woman, 58 years of age, affected with elephantiasis. The cutis is irregularly thickened, so as to form ridges and bosses with deep clefts between them. Upon these are numerous large, mostly club-shaped papillæ, covered with thick, brown, horny epidermis, giving to the external surface of the integument its nodulated appearance.

Presented by Joseph G. Defriez, Esq., 1852.

4032. The foot of a Hindoo, affected with lepra anæsthetica. The skin is wrinkled and slightly thickened. All the toes, with the exception of the great toe, have been destroyed in the progress of the disease ; and the distal end of the first metatarsal bone protrudes through an ulcer on the sole. Over the prominent outer surface of the external malleolus is an oval ulcer, three quarters of an inch in diameter, with shelving and much-thickened edges.

Presented by Dr. Shortt, 1876.

4033. The hand of a negro, affected with true leprosy, or lepra anæsthetica. The cutaneous surface presents no abnormal characteristic. The ends of the fingers are atrophied, and the nails are thickened and incurved.

From a man, aged 29. He was born in India, and lived there till nine months before his death. At eight years of age he had enlargement of the spleen ; at ten years intermittent fever and jaundice ; and at fifteen the leprosy showed itself as a small pink spot, first on one arm, then on the other ; other spots appeared subsequently ; eighteen months later the face and hand became swollen, tuberculated, and of a dark livid colour, and the feet soon became affected in a similar manner. The symptoms disappeared for a year under treatment : then they reappeared and continued with great severity for three or four years, and then again subsided. He died from pneumonia and pleurisy, with ascites, hepatic disease, and enlarged spleen.

Presented by Dr. Peacock and Charles Stewart, Esq., 1877.

4034. The hand of a woman, affected with true leprosy, with the palm dissected. The skin of the dorsum is smooth and shrunken; all the fingers, except the fifth, have been lost; but the proximal ends of some of the first phalanges remain. The nerves of the palm are uniformly and slightly thickened.

From a native of the Mauritius.

Presented by Staff-Surgeon Robert Allan, 1879.

4035. A portion of skin from the upper and inner part of the thigh of a man, aged 48, affected with elephantiasis Græcorum, or true leprosy. The skin is studded with numerous smooth, rounded nodules, most of them being between a quarter and half an inch in diameter. Several are superficially ulcerated at their centres, and at the middle of the specimen is a large excavated ulcer occupying the situation of a nodule. *Presented by Thomas Nunneley, Esq.*, 1869.

4036. A transverse section of a leg affected with elephantiasis. The integuments are nearly an inch in thickness, and are very firm. On their cut surface they appear composed of a tough, white, fibro-cellular tissue, forming thick bands and laminæ, which enclose areolæ resembling those of the deep layers of coarse skin, and filled with masses of a deep yellow, transparent, jelly-like and, probably, fatty substance. The surface of the skin is dark, hard, and very coarsely wrinkled and granular. The cuticle is not of unusual thickness. The bones and muscles appear healthy.

Hunterian.

4036 A. Another section of the same leg, taken from its lower part, and including the lower end of the tibia, the articular surface of which is healthy. *Hunterian.*

4036 B. The foot and ankle of the same person. The whole integument is similarly diseased, but its surface is paler and smoother than in the preceding specimens. *Hunterian.*

4037. The outer half of a left foot, divided by a vertical section, showing a general hypertrophy of the skin and subcutaneous tissue. The skin is uneven, deeply wrinkled, and over the dorsum and ankle is covered with small closely-set papillæ. On the surface of the section the epithelium may be seen to be much thickened and papillary; the corium and subcutaneous tissue are also thickened and dense, from the formation of fibrous tissue in them.

From a man, aged 67, whose foot was amputated in hospital in January 1877. He had been lame with the left leg for fifty years, the veins of that limb being varicose. For fifteen years the leg and foot had been enlarged. In October 1875 he had two large ulcers on each side of the ankle below the malleoli. An abscess subsequently formed in the sole, followed by necrosis of the metatarsal bones. (See MS. Notes, vol. ii. p. 220.)

Presented by Henry Smith, Esq., 1877.

4038. An enlarged prepuce removed by operation. It forms a solid, irregular, oval mass, about three inches in diameter, dense, pale, and compact, and apparently composed of fibro-cellular tissue like that of loose skin, unmixed with fat.

Hunterian.

4039. A little toe of an Ethiopian affected with "Ainhum." It is much enlarged by hypertrophy of the subcutaneous tissue, chiefly on the under surface, where is a large rounded projection. The nail is thickened, overgrown, and curved downwards. The toe was separated by spontaneous amputation, as is usual in this disease.

The separation commenced by a semicircular depression in the digito-plantar fold, which gradually became deeper and ulcerated. As this went on, the front part of the toe became swollen twice or three times its natural size. It has not as yet been possible to assign any cause for this affection.

It is described in Path. Soc. Trans. vol. xviii. p. 277. For other references, see MS. Notes, vol. ii. p. 187.

Presented by Dr. De Silva Lima, 1875.

4040. A portion of skin of a reddish brown or bronze colour from a case of "Addison's disease."

Presented by Charles Stewart, Esq., 1885.

4041. Section of the integuments of a heel, a mass of which was removed as a tumour from a gouty gentleman. The enlargement appears to have been produced solely by the abundant deposit of white chalky matter in the fat of the deep layers of skin. The mass thus formed is an inch in thickness; its section presents still the lines of division of the lobules of the fat: at the back of the heel is an ulcer leading down to the surface of the morbid deposit.

Presented by Sir Everard Home.

4041 A. Portions of the integuments of a toe, dried, with a large quantity of gouty deposit imbedded in them, as in the preceding specimen.

From the Museum of John Heaviside, Esq.

Eruptions.

4042. A portion of skin, from a head thickly covered with scales of epidermis accumulated in Pityriasis or dandruff.

From the Museum of Sir A. P. Cooper.

4043. The foot of a child, with the eruption of small-pox in an early stage, before the formation of pustules. *Hunterian.*

4044. Portion of skin, with numerous pustules of small-pox. They show distinctly the circular outline, the smoothly raised and rounded margin, and the flattened upper surface with the central depression, characteristic of the variolous pustule. *Hunterian.*

4044 A. A similar specimen. *Hunterian.*

4045. Part of the face of a child, on which small-pox pustules have burst and ulcerated, leaving shallow pits in the skin.

Hunterian.

4046. A portion of skin, from a patient with small-pox, dried after minute injection of the blood-vessels. Patches of

unnatural vascularity are seen where the pustules were situated. *From the Museum of John Taunton, Esq.*

4047. The cuticle from the sole of the foot of a person who had small-pox, showing the epidermal portions of numerous pustules. *Presented by S. R. Pittard, Esq.*

4047 A. The cuticle from the finger of a person who had small-pox, showing on its internal surface the epidermal portions of numerous small pustules, which are not apparent externally. They are almost limited to the palmar surface, but are also seen close to the matrix and beneath the free border of the nail. *Presented by Dr. Goodfellow.*

Ulceration.

4048. The scalp of a gentleman, who had extensive necrosis from syphilitic disease of the skull. It has been destroyed by ulceration over all the parts at which the skull was diseased. The skull is preserved in No. 1306.

Presented by Sir Patrick Macgregor.

Cysts and Morbid Growths.

4049. A small globular, cutaneous cyst, with the skin covering its anterior half. *Hunterian.*

4050. Sebaceous matter, with hair, from a cyst on the face. The hairs are all exactly like eyelashes which have naturally fallen-off, slender and sharply pointed at both ends.

From the Museum of Sir A. P. Cooper.

4051. Portion of a cranium, in which, situated nearly in the middle line, at the posterior part of the frontal bone, is a somewhat circular perforation about half an inch in diameter, at the bottom of a wide, smoothly bevelled excavation caused by the pressure of a dermoid cyst.

From a girl, aged 17, admitted into the Hôpital Necker, Paris, in November 1842, under the care of M. Lenoir, with a small tumour, of the size of a walnut, in the upper and middle part of

the frontal region, a little beyond the roots of the hair. This tumour had first been noticed when the patient was 2 years old; it was then very small, and its increase had been gradual. An incision was made into the cyst, but it was not removed. Some years afterwards, in cutting into the cyst, M. Lenoir found that it was lodged in a deep cup-like cavity in the frontal bone, to which it was very firmly attached; the whole cyst was, however, got out. Two days afterwards erysipelatous inflammation made its appearance about the scalp, and the patient sank on the tenth day after the operation.

Presented by Sir Prescott Hewett.

4052. An oval cyst, half an inch in its longest diameter, and filled with calcareous matter.

It was removed from the back of a female, aged 20, and is probably dermoid.

Presented by Sir William Fergusson, 1871.

4053. Portion of skin, with a very thin membranous cyst attached to its under surface.

From the Museum of Sir A. P. Cooper.

4054. An irregular ragged mass connected with a cutaneous proliferous cyst upon the shoulder. The remains of the cyst are seen with a shreddy exterior, and the interior has at some parts an aggregation of pedunculated intracystic growths. These are formed of papillæ, covered by tessellated epithelium.

From a man aged 54. The tumour had been growing many years. (For a full description of the histological characters and drawings see MS. Notes, vol. ii. p. 68.)

Presented by John Birkett, Esq., 1874.

4055. Section of a tumour, and of the skin in which it appears to have grown. It seems to have developed within a cyst, and is composed of a soft, cracked, brownish, mottled, and vascular substance; a portion of it protrudes through an ulcerated aperture in the surface of the skin.

From the Museum of Sir A. P. Cooper.

4056. A portion of a scalp and, projecting from it, a cyst, probably

sebaceous, which is completely filled by an epitheliomatous growth. A section of the tumour shows traces of the wall of the cyst with branched sulci as if formed by the meeting of papillary growths.

Microscopically, the tumour presented the usual appearances of epithelioma, but the cells at the centres of the epithelial columns or masses had undergone a granular or fatty degeneration, somewhat resembling that normally occurring in the formation of sebum.

Removed from a middle-aged man. The tumour was inflamed and suppurating on its surface.

Presented by Frederic S. Eve, Esq., 1884.

4057. Section of a leg injected, presenting extensive patches of cheloid growth or circumscribed hypertrophy of the integument, with rounded borders and irregular outlines. The larger growths attain a thickness of half an inch, and have a flattened, tuberous surface, shelving gradually at the margins. A section of the diseased portion shows that the change consists of an accumulation of tough, compact, vascular, fibrous tissue, similar to, and continuous with that forming the deeper layers of the cutis. The epidermis is not affected except where ulceration has taken place on some of the more prominent parts. The other structures of the leg appear healthy.

From a man 25 years of age. The disease followed scalding with hot oil. The scalded parts were not healed till seven months after the injury. The scars began to "grow up" about a month after their completion; and eight months afterwards the limb was amputated. The other half of the leg, and drawings taken from it during life, are in the Museum of St. Bartholomew's Hospital (No. 2696).

Presented by Edward Stanley, Esq.

4058. A rounded fibrous tumour, about three eighths of an inch in diameter, projecting from the outer surface of the lobule of an ear at the seat of a puncture for an ear-ring. The section has a fibrous appearance.

Microscopic sections showed, beneath a layer of normal epithelium, fibrous tissue with nuclear elements, apparently of inflammatory nature, scattered throughout it.

From a lady, aged 30, who noticed a growth on the ear six years before the specimen was removed. It had been scooped out on two occasions, but grew again at once. A similar specimen is No. 3959. (See MS. Notes and Drawing, vol. ii. p. 130.)

Presented by Thomas Bryant, Esq., 1874.

4059. Two very large keloid growths removed from the lobes of the ears of a Chinese woman. They are very dense, and are composed of coarse interlacing fibres.

Presented by Dr. Manson, 1881.

4060. The inner half of a left foot divided by a vertical section. A prominently projecting or fungating growth covers the dorsum, extending from the ankle to the base of the great toe. Its surface is ragged, as if breaking down; its cut surface is firm and homogeneous, and its inner margin is finely papillary in structure. The skin of the foot is much wrinkled, and, in parts, has an unhealthy papillary appearance.

Microscopically the tumour had the characters of a granuloma, and its surface was denuded of epithelium.

From a merchant, aged 63, long the subject of cardiac disease and albuminuria. From boyhood he had suffered with gummata and tubercles on the skin of the left leg and thigh, terminating in ulceration or resolution. To these were superadded a diffuse fibroid or spurious hypertrophy of the skin, which extended as high as the lower third of the thigh. In November 1882 he was seen by the donor on account of the disease on the dorsum of the foot (shown in the specimen); this had originated from some of the gummata. It was regarded by high surgical authorities as epithelioma, and some of the ulcers being above the patella, amputation was performed at the middle of the thigh. When nearly convalescent from the operation, a subcutaneous swelling appeared on his right forearm and elbow; it sloughed and cicatrization followed. For some months the patient was able to resume business; but in the autumn of 1883 he began to suffer great pain in the loins, followed by an obscure deeply-seated swelling in the right buttock. This was found, after his death in August 1884, to be due to a "tumour" which perforated the ilium and pressed upon the cords of the lumbar plexus. He denied having had primary syphilis: but it was known that his father had been under treatment by Mr. Abernethy at the time of the patient's birth, and after his death strongly marked characteristics of

inherited syphilis were observed in one of his sisters. These facts, suggesting that the disease was due to hereditary syphilis, are supported by the course and termination of the swelling of the forearm and by the histology of that on the foot. (For a full account of the case see MS. Notes, vol. iii. p. 220.)

Presented by J. W. Hulke, Esq., 1884.

4061. A lobulated cystic tumour from a shoulder. The cysts are formed in a fibrous matrix, and the tumour appears to be a fibroma molluscum undergoing degeneration.

From a healthy young woman, who had many similar tumours on various parts of the body.

Presented by Richard T. Gore, Esq., 1874.

4062. Two portions of skin from which grew rounded fibrous tumours (fibroma molluscum) of various sizes. The larger project from the surface with a sessile base, but the smaller ones are seated in the corium, and are now hardly visible.

From the body of a woman whose trunk and extremities were covered with similar growths, large and small.

Presented by Dr. Lediard, 1877.

4063. A section of skin from a groin, from which projects a rounded tumour of homogeneous appearance and firm consistence. It infiltrates the deeper tissues, and is not contained within a capsule. Its structure is fibrous.

From a single lady, aged 55. It had been noticed for nine months.

The case is figured and described in MS. Notes, vol. ii. p. 130.

Presented by Thomas Bryant, Esq., 1874.

4064. A loose fibrous tumour connected with the skin, forming a slight elevation on the surface, of oval shape, two inches and a half long, and one inch and three quarters broad. Microscopical examination showed it to be composed of areolar and elastic tissue.

Removed from the shoulder of a lady. It had existed for fourteen years, and had not occasioned any pain.

Presented by Thomas Wormald, Esq.

4065. A large tumour composed of fibrous and areolar tissue, and covered by skin. Its dependent part is covered by a large ulcer, the result of friction.

From a woman, 65 years of age. The tumour had been noticed twenty-six years. Its attachment extended from the ilium to the pubes on the left side. It had never been painful, and had been carried in a sling for years. Ulceration and hæmorrhage had commenced three months before its removal.

Presented by Dr. Ward Cousins, 1876.

4066. A small cutaneous tumour, removed, with a portion of the adjacent skin on which it grew, from the back of a thigh. It has an oval outline, is somewhat flattened, and is attached by a small short pedicle ; it appears to be composed of fibro-cellular tissue, like that of skin ; and its surface, which is nodulated and granular, is covered with healthy epidermis. *From the Museum of Sir A. P. Cooper.*

4066 A. A similar cutaneous fibrous growth, attached by a very slender pedicle to the skin of a man's arm. *Hunterian.*

4066 B. A similar specimen. *Hunterian.*

4067. A deeply lobed growth, which was attached by a narrow pedicle to a breast. It has the same general structure as the three preceding specimens. *Hunterian.*

4068. A lobulated pendulous tumour, weighing upwards of half a pound, removed from the margin of the anus of a man about 40 years of age. The bulk of the tumour is composed, apparently, of fibro-cellular tissue continuous with the deeper layer of the investing integument. The external surface is nodulated and covered with healthy epidermis, except in some parts where ulceration has taken place, probably in consequence of pressure or friction.

Presented by T. Blizard Curling, Esq., 1851.

4069. An adenoma removed from beneath the scalp, over the right parietal bone. It is of a flattened ovoidal form, about an inch in its chief diameter. Nearly the whole of its

upper surface is irregularly ulcerated. Its section shows mutually adapted lobules, over which are scattered rounded sharply-defined points of a yellowish unctuous substance.

Microscopically it was "an acinous glandular growth, of which the parts are supported by thickly-celled connective tissue. The acini are, many of them, filled with small epithelial cells; in others there are central spaces containing a yellow fatty substance."

The tumour was removed from a lady, aged 43. It had existed six or seven years, and was at first supposed to be a cyst. (See Trans. Path. Soc. vol. xxxiii. p. 290, 1882.)

Presented by Samuel G. Shattock, Esq., 1882.

4069 A. One half of a small oval tumour, having externally the appearance of a fatty tumour. It was infiltrated with calcareous material to such an extent that it could not be cut with a knife.

Microscopically it is composed of convoluted columns of very small epithelial cells. Some of the larger columns contain a central space filled with fatty matter and crystals of cholesterine, and having the appearance of the lumen of a tubular gland with a thick wall of epithelium.

The tumour was removed from the subcutaneous tissue of the back of a young gentleman, and it had been growing for six years. A brother, his father, and a paternal aunt had subcutaneous tumours, in some instances multiple, of the same description. (See Trans. Path. Soc. vol. xxxiii. p. 335, 1882.)

Presented by Frederic S. Eve, Esq., 1882.

4070. A similar tumour from a scalp, completely calcified.

Presented by Henry A. Reeves, Esq., 1882.

4071. Half of an oval tumour from a scalp, measuring about four inches in its long diameter. It is enclosed in a fibrous capsule, which sends prolongations into its substance, dividing it into rounded lobules of various size and giving it the general appearance of a glandular growth. Many cysts from half a line to one line in diameter are scattered over the section; some of them contained granular matter.

Its microscopical characters are purely epithelial. The cells are regular in arrangement, form, and nucleation, and are contained in loculi, separated by fibrous septa.

From a man aged 56. The tumour had existed twenty-five

years, but had increased largely only within a year of its removal. The case is reported in the Guy's Hospital Reports, Series iii. vol. xviii. See also MS. Notes, vol. i. p. 228.

Presented by Alfred Poland, Esq., 1866.

4072. Two clusters of horny papillomata from a lower lip. The papillæ are elongated, the largest being half an inch in length, discrete and rounded, with blunt ends ; their surfaces are grooved or furrowed.

Removed from a man, aged 69, formerly a sailor. The growth occupied the middle and part of the left side of the lip, from which it projected horizontally forwards with an inclination downwards. It began five years before the operation as a little wart, which, after removal by ligation, was followed by others.

Presented by T. Blizard Curling, Esq.

4073. A small pedunculated warty growth. The surface is warty and cuticular in appearance, and is deeply fissured throughout.

From a gentleman aged 56. The growth had existed as a mole or wart for many years, and thirty-five years before its removal a string was tied round it. It grew gradually and slowly. It was removed, and the wound healed well by granulation. (See MS. Notes, vol. ii. p. 218.)

Presented by John Hilton, Esq., 1875.

4074. A large spheroidal, warty, cutaneous growth, deeply lobed and nodulated, removed from the external labium of a woman. It was fixed by a very small pedicle. *Hunterian.*

4074 A. Sections of a similar growth, displaying a pale compact base, composed of tissue like that of the denser layers of the skin, and bearing on its surface bunches and groups of warty nodules fixed by narrow pedicles. *Hunterian.*

4075. Sections of a wart-like growth from the skin. The greater part of it is composed of tough tissue like that of skin ; it is attached by a narrow pedicle, and covered with long and slender thorn-like, sharp processes of the same tissue, which radiate in all directions, and are invested with a thick dark cuticle. *Hunterian.*

4075 A. Section of a similar, but much larger, growth, probably not from the human subject. It measures two inches in diameter and had, apparently, a broad base; the spines covering its surface are from one to three lines in length. They are, for the most part, grouped; and they taper from broad and, in some instances, suddenly expanded bases.

Hunterian.

4076. A section of a similar growth, from the leg of a Dog. Some of the spines on its surface are half an inch in length, and many of them are united in groups. *Hunterian.*

4077. "Scrofulous tubercles on the legs of Sparrows."—*Hunterian MS. Catalogue.* Upon the skin of the legs and feet are many rounded warty growths which are finely papillary on the surface and firm on section.

4078. A hand, on the back of which a patch of skin near the bases of the second and third fingers is thickened and covered with scaly crusts and indistinct papillæ. There is no thickening around the patch, but the skin was livid in the recent state. The third finger is represented by a stump, and at its extremity are several separate masses of low papillæ. The condition somewhat resembles that described as papillary lupus.

The microscope showed that the diseased condition chiefly depended on an hypertrophy of the epithelium.

Presented by John Gay, Esq., 1875.

4079. A small vascular tumour from the scalp. Its structure is that of a round-celled sarcoma.

From a gentleman, aged 67, who had injured his head some months before the appearance of the tumour. The tumour was thought to be a cyst, and was incised; but instead of healing, granulations sprouted from it, and it grew. At the operation the growth was found to invade the external table of the skull. The patient died twenty days afterwards from syncope. He was noticed as

having an extremely irregular action of the heart at the operation, and died suddenly on getting out of bed. (See MS. Notes, vol. ii. p. 16.)

Presented by John Hilton, Esq., 1873.

4080. The greater part of a face covered with discrete and conglomerate tubercles, varying in size from minute specks to large, raised, ulcerated and softening patches; some of them show a dark deposit, either of pigment or of hæmatin. They are generally scattered over the right side of the face, but are largest around the eye, the palpebral aperture being almost closed by the infiltration and swelling of these parts. On the left side of the face they are confined to the orbital region. A large mass of conglomerate tubercles is situated over the bridge of the nose.

Microscopically the tumours had the characters of a round-celled or granulation sarcoma.

From a woman, aged 52, admitted to Hospital on September 30th, when the growths were confined to the right side of the face and bridge of the nose. The skin between the growths was livid and inflamed. A small tubercle had formed on the cheek a month previous to admission, and it had been preceded by a pain like tooth-ache in the region of the first upper right molar tooth. This tubercle softened and others soon appeared. She had pyrexia, on one day reaching 104·4° Fahr.; but the disease caused her no inconvenience until October 7th, when she complained of pain in the throat, and the submaxillary lymphatic glands were found to be enlarged. About this time the disease extended to the left cheek. On the 10th she first complained of dyspnœa and dysphagia; on the 17th both eyes were closed from the extension of the disease, and on the 27th of the same month she died with dyspnœa and debility. On post-mortem examination numerous glands were found infiltrated on the right side of the neck. At the posterior part of the right lung were numerous hard nodules, and several small suppurating nodules were interspersed through its substance. The other organs were healthy. (See Liverpool Med. Chir. Journal, January 1882, p. 367.)

Presented by Dr. Alexander, 1882.

4081. Portion of the skin of a thigh, in which there are several small medullary tumours. They are oval in form, various in size; their texture is uniform, pale, soft, and almost pulpy; their cut surface is smooth; they are imbedded in the superficial part of the skin, and project but little from its surface. *Presented by Sir William Blizard.*

4082. A portion of skin affected with melanotic sarcoma. The principal mass is surrounded by numerous secondary nodules. *Presented by Francis Kiernan, Esq.*

4082 A. A section of skin showing a cutaneous tumour containing black pigment. *Presented by Francis Kiernan, Esq.*

4083. A portion of skin in which is an irregular deposit of black pigment. From this grows a lobulated tumour which also contains pigment.

Presented by Francis Kiernan, Esq., 1871.

4084. A small rounded tumour, containing pigment, removed from the calf of the leg. It is composed of fibrous tissue with thick-walled vessels in it, and here and there scattered irregularly through the growth are numerous pigment-grains.

No cellular elements indicative of any malignancy could be found. But three months later the cicatrix, both of the primary incision and also of the sutures, became infiltrated by melanotic material. Mr. Gay writes (August 1877):—"The deep colour of the cicatrix became slightly lighter in shade after a few months, and there was no recurrence of the tumour. The girl is now lost sight of. (See MS. Notes, vol. ii. p. 159.)

Presented by John Gay, Esq., 1874.

4085. Portion of skin, from the front of a leg, in which there is an epitheliomatous ulcer. It is elevated with thickened, vertical, or overhanging borders, a sinuous margin, and a warty, fissured surface.

From the Museum of George Langstaff, Esq.

4086. The vertex of a skull, with an extensive epitheliomatous ulcer of the scalp. Its margins are thickened, everted, and undermined, and its surface is very irregular from the projection of exuberant granulations.

From a charwoman, aged 67. Something fell and cut her head when she was about 20 years old. Some bone came away soon afterwards, and other pieces exfoliated at intervals.

Towards the close of life small hæmorrhages occurred repeatedly. There was no symptom of cerebral disease. (See MS. Notes, vol. ii. p. 178.)

Presented by Dr. Lediard, 1875.

4087. A section of an ankle-joint, with a protruding, ulcerated epithelioma springing from the integuments on the posterior surface of the leg just above the heel.

The tumour possessed the microscopic characters of epithelioma.

Presented by Frederic S. Eve, Esq., 1881.

Parasitic Diseases.

4088. A Dace, the surface of the body of which is nearly covered with a species of mycoderm. *Hunterian.*

4089. A Mouse, with an irregular growth upon the right side of its head, composed of Tinea Favus.

Presented by G. Fleming, Esq.

4089 A. A Roach, with its scales thickly studded with deep black dots, of which some are raised ; the subcuticular tissue also contains closely placed patches of black pigment. Some of the dots are in the form of an annular ring of pigment with a clear centre.

It was found on microscopic examination that each dot enclosed an embryo surrounded by a fibrous cyst-wall containing abundance of pigment.

Presented by W. B. Tegetmeier, Esq., 1880.

4090. The anterior and inner part of a left foot, affected with mycetoma, the "fungus-disease" of India. The integuments are much hypertrophied, attaining, even on the dorsum, the thickness of a quarter of an inch. Deep in the substance of the foot are several cavities, some three quarters of an inch in diameter. The largest, close to the root of the second toe, is lined with follicles, in which are to be seen particles, believed to be fungous in nature ; these impart a honeycombed appearance to the cut surface of the follicles. Several of the canals or sinuses by which

the cavities communicate with the exterior are seen, cut across, especially in the pale, degenerate, muscular tissue beneath the second metatarsal bone; the orifices of the canals may be observed on different parts of the integument, some having everted edges, others being perfectly level with the surface. The toes are displaced, owing to pressure on the tendons; the bones were not involved in the disease. The sinuses contained little white or pink spheres resembling "fish-sacs."

From a male native of the Deccan, aged 30, who wounded the sole of the left foot by treading on a thorn: abscesses formed, and the foot became greatly swollen and useless, but not painful; his health failed, and amputation was performed three years after the injury. On microscopic examination of the contents of the cavities no distinct evidence of fungus could be found. See 'Mycetoma or the Fungus Disease of India,' by H. Vandyke Carter, M.D., 1874, p. 10, and plates vi. & vii.; also Trans. Path. Soc. vol. xv. p. 251.

Presented by Dr. H. Vandyke Carter, 1869.

4091. A section through the ankle of a foot affected with mycetoma. The integuments are much thickened, and numerous canals run through the astragalus and soft structures, opening through the skin. The cavities are small and lie in the substance of the tibia and in the soft structures, as exposed by the anterior incision; they are lined with a smooth membrane; few contain any trace of solid contents.

Presented by Dr. H. Vandyke Carter, 1869.

4092. Section of a foot affected with mycetoma. It had all the usual appearances of that affection; fistulæ in the integument communicating with channels in the substance of the foot, and in which are numerous "fish-roe" bodies.

On minute examination the "fish sac" was found to consist of round spore-like bodies, coated over with radiating processes, which have been described as fat-crystals; but spores and fat-crystals alike disappeared on boiling in caustic potash, and nothing like mycelium was discovered.

From a native of Bengal. See MS. Notes, vol. i. p. 361.

Presented by Sir Joseph Fayrer, 1871.

4093. A section of a left foot, affected with mycetoma. The characteristic cavities are very large, and occupy the bones of the tarsus and the muscles of the sole; they originally contained a material resembling the fungus (*Chionyphe Carteri*) described by Dr. H. V. Carter. On the integuments round the ankle are numerous orifices of sinuses, mostly level with the sinuses. The metatarsus, phalanges, and anterior part of the foot are healthy.

From a Madras shepherdess, aged 30. Three years before removal of the foot, she sprained her left ankle, and, the swelling not subsiding rapidly, an incision was made by a native barber. The foot became useless and painful, and four months before amputation small tubercles appeared around the instep and sole, which burst and discharged whitish granular matter. The patient recovered rapidly after operation. (See MS. Notes, vol. ii. p. 174.)

Presented by Dr. John Shortt, 1875.

4094. A section of a left foot, affected with a very severe and advanced form of mycetoma. The integuments are extremely hypertrophied, and show the orifices of numerous sinuses, some level with the surrounding skin, some with everted, thickened edges. Cavities and canals leading from them are distributed very generally through the deeper structures, including the bones, which are much diseased; some of the cavities contain a yellowish material.

From a Pariah, aged 35, employed at work in swampy districts. The disease commenced as a large tubercle on the sole, three inches behind the bases of the second and third toes. The foot became swollen and remained so for nine years, then became the seat of burning pains, and was removed. (See MS. Notes, vol. ii. p. 174.)

Presented by Dr. John Shortt, 1875.

4095. The skeleton of the right foot of an Indian, prepared so as to show the effects of mycetoma on bone. The os calcis, the cuboid, and the scaphoid bones are riddled with cavities: the other tarsal bones are similarly affected, but to a less degree. There are large cavities in the fourth and fifth metatarsal bones, opening into the medullary canals, and smaller

cavities in the first metatarsal bone. Extensive bony outgrowths are seen on the surface of the two outer metatarsals and on the back of the os calcis.

Presented by Dr. John Shortt, 1875.

Diseases of the Appendages of the Skin.

Of the Nails.

4096. The end of a toe, with the nail, two inches long, curved downwards like a claw, and formed of a great number of superimposed and compactly united layers, each of which has in its turn been pushed forwards by those growing beneath it. *Presented by Sir William Blizard.*

4097. Several similar nails, from persons who had never cut them. They are of various size and thickness; all tend towards the curved claw-like form, and are laminated, with the most superficial laminæ somewhat incurved at their margins, so as to enclose the deeper ones.

From the Museum of John Heaviside, Esq.

4098. The end of a finger, in which, coincidently with a morbid growth of the nail, the matrix of the nail has become narrow and unnaturally convex, with a ridge passing along the middle of it. *Hunterian.*

4099. The cuticle and nail, from the finger last described. The form of the nail corresponds with that of its matrix.

Hunterian.

4100. A preparation similar to the two preceding; but the nail and its matrix are still more deformed; and on the end of the latter there is a short blunted process, which was ensheathed in ill-formed, nail-like substance beneath the free portion of the proper nail.

Presented by Sir William Lawrence.

4101. Section of the fore extremities of a Horse, with an overgrowth of the hoofs in a forward direction; one hoof measures $11\frac{3}{4}$ inches from the heel to the tip, the other $9\frac{3}{4}$ inches. Owing to the hypertrophy of the hoof, the plantar surface was carried forwards, and the animal walked upon the back of the "frog." In consequence of the alteration in the direction along which the weight was transmitted to the ground, a displacement of the bones has taken place, the opposing articulating surfaces of the first and second postern bones being displaced backwards, and forming an angle projecting posteriorly. Osseous ankylosis of this articulation has taken place in one foot, and has commenced in the other; osseous tissue has also been deposited in the long flexor tendon.

The Horse was used upon a farm until it was killed; it had for some time been grazed upon soft marshes, and this circumstance may account for the overgrowth of the hoof. (See MS. Notes, vol. iii. p. 183; also Trans. Path. Soc. vol. xxxii. 1882.)

Presented by Alfred Willett, Esq., 1881.

4102. A great toe, on which there is a large ulcer of all that part to which the nail was attached, and of its borders for some distance round. The ulceration presented the characters of the disease termed onychia maligna; it resisted all treatment, and the toe was therefore amputated.

From the Museum of Robert Liston, Esq.

4103. Two heads of Partridges, each with deformity and overgrowth of one of the mandibles. The lower mandible of the head placed uppermost in the preparation is converted into a rough horny process of rounded form; it is about three quarters of an inch in length, about a quarter of an inch in diameter, and directed vertically downwards. In adaptation to its position, the upper beak is sharply curved downwards.

In the lower head the upper mandible is continued straight forwards into a less rough and more slender process, projecting more than a quarter of an inch beyond the lower mandible.

4103 A. The head of a Partridge, with the upper mandible sharply curved downwards, and passing through an opening in the lower mandible.

4103 B. The head of a Jackdaw, with the mandibles elongated and evenly curved in opposite directions, the upper being curved downwards and the lower upwards and inclined to the left side.

These deformities may have resulted from injuries sustained during the period of growth.

Presented, with the two preceding, by William B. Tegetmeier, Esq., 1883 and 1884.

Diseases of the Sebaceous Glands.

4104. The enlarged end of a nose, removed by operation. It is a large knobbed and wrinkled mass, apparently formed by an excessive growth of firm and compact skin and enlarged glands. *Presented by Sir William Blizard.*

4105. A concavo-convex mass which formed the enlarged end of a nose (*Acne rosacea*). It is composed of an excessive growth of skin. The sebaceous glands are much increased in size, and mostly distended with secretion.

Presented by John Avery, Esq.

4105 A. A similar specimen of smaller size, and exhibiting on its surface the orifices of numerous large sebaceous glands, from some of which secretion is protruding.

The patient was nearly 80 years old. About twelve hours after the removal of this part, hæmorrhage suddenly ensued, "which reduced the power beyond recovery."

Presented by Sir William Blizard.

4106. A lobulated growth of skin, like the preceding.

Hunterian.

4107. Three sebaceous cysts from the scalp. The largest of them

had turbid dark brown contents, and was of twenty-two years' growth.

From a gentleman aged 54.

Presented by John Hilton, Esq., 1872.

4108. Section of the breast of a Partridge, with a large encysted tumour connected with the skin over the lower part of the pectoral muscles. The contents of the cyst are unorganized, laminated, soft, and pale in the deeper parts; hard, dry, and dark-coloured nearer the surface, where they have burst through the cyst-wall, forming a nodulated horny projecting mass. *Presented by W. B. Tegetmeier, Esq.*, 1864.

4109. The breast of a Partridge, with a similar tumour developed from the skin, and connected to the body only by a narrow pedicle, showing apparently a further stage of the disease shown in No. 4108.

Presented by W. B. Tegetmeier, Esq., 1866.

4110. A similar tumour from the breast of a Partridge.

Presented by W. B. Tegetmeier, Esq., 1867.

4111. The head of a Fowl, with a large tumour growing from the skin of the whole upper surface. It appears to consist of a number of distinct cysts filled with laminated epithelium and sebaceous matter.

Presented by T. Blizard Curling, Esq., 1868.

4112. A Lark with a small oval cyst, containing a soft fatty substance, on the upper part of each of its wings.

Hunterian.

4113. A cyst, from the skin of a scalp. Half of its cavity has been emptied, the other half is filled with a laminated sebaceous substance. Its walls are nearly a line in thickness, uniform and smooth.

From the Museum of Sir A. P. Cooper.

4114. A similar cyst, from a scalp. Suppuration had been excited in it. Its contents have been removed, and small masses and flakes of a soft, granular, sebaceous substance are attached to its inner surface.

From the Museum of Sir A. P. Cooper.

4115. A similar cyst, removed from below the chin of a young woman. It has been opened and emptied. *Hunterian.*

4116. A small, oval, thick-walled cyst, from a scalp. Half of it has been emptied; the other half is filled with a dense and regularly laminated, sebaceous, or almost horny substance.

Hunterian.

4117. Portion of skin, with a small thick-walled cyst just beneath its surface. A bristle is passed through a small opening in the skin into the cavity of the cyst, showing the probability that the cyst is formed by the enlargement of a hair follicle.

From the Museum of Sir A. P. Cooper.

4118. A cyst, of nearly globular form, and four inches in diameter, removed, with part of the skin over it, from the scalp of an old lady. The walls of the cyst are thick and very tough; its contents were a thin dirty fluid, mixed with flakes of a curd-like substance, and a quantity of sebaceous matter mingled with earthy particles, some of which remain attached in irregular plates and masses to its internal surface.

The cyst had been growing for many years. Several smaller ones were removed at the same time.

From the Museum of Robert Liston, Esq.

4119. Two "horns supposed to be excrescences formed on the human head" (*Minutes of the Board of Curators*, July 30, 1806). They are of an irregular conical form, and slightly curved. One of them is three inches and a half in length,

the other one and three quarters; each of them measures one inch and a quarter in diameter at its base.

From the Leverian Museum.

4120. A large, flattened, longitudinally grooved, and spirally convoluted horny growth.

It was removed from the scalp of a woman, aged 77, and was situated a short distance behind the vertex. It had been growing more than twenty years, and up to the last six years the patient was in the habit of paring it with scissors. Several sebaceous tumours were present on the scalp of the same patient, and one had been removed from over the clavicle. The growth was feebly attached to the deeper layers of the scalp, and very easily removed. The patient recovered. (See MS. Notes, vol. i. p. 96.)

Presented by Victor de Meric, Esq., 1867.

4121. A mule bird, between Canary and Linnet, with a remarkable horn-like growth from the skin of the anterior edge of the left wing, immediately over the terminal phalanx; and two long spiral horn-like rods, which were shed from the place occupied by the growth.

The growth took place during several years, and was renewed whenever it broke off, which it did several times, in consequence of its own weight. This occurred shortly before death, so that the part actually attached to the wing is very small. The longer spiral horn came off March 20th, 1863, being the second that had been shed. The next largest one in the bottle came off February 27th, 1864. The bird died August 7th, 1864, being about five years old.

Purchased, 1871.

4122, 4122 A. Two sections of horn, which grew from the posterior part of a scalp. No. 4122 was the growth of twenty years, and was shed naturally in 1870; the other shows the amount of the growth which had formed in eighteen months after, when it was removed by excision. This specimen also shows the relation of the horn to the skin at its base. Several sebaceous tumours occupied various parts of the scalp.

From a man, aged 65.

For full history of the case, and drawings, *vide* MS. Notes, vol. i. p. 297.

Presented by Thomas Bryant, Esq., 1871.

4123. An epidermal horn, more than two inches in length, and describing one turn of a spiral.

It grew from a cyst, which had existed for a long time, and was situated behind the left ear of a lady, aged 70.

Presented by Robert F. Woollett, Esq., 1883.

4124. A horny epithelial growth, which grew from a cyst on the neck of a woman aged 35 years. It had been growing six years. *Presented by Alban Doran, Esq.*, 1882.

4125. A common Mouse, with a tumour on its scalp. The outer layers have dried, and give it the appearance of a horn.

Presented by Mr. John Tutley, 1875.

Diseases of the Hair.

4126. A great quantity of hair, matted with the moist and greasy secretions of the scalp into a large and nearly solid heavy mass (*Plica Polonica*).

4127. A similar specimen. About the surface of the mass some locks of hair remain loosely, if at all, matted together; and in these the hairs appear more glistening, and covered with more secretion, than in the healthy state.

4128. A mass of hair from the scalp of a Polish Jewess affected with plica polonica. *Presented by Victor de Meric, Esq.*

4129. A rope-like lock of matted hair, dwindling at the end, and five yards in length. It was said to have grown on the left side of the head of a lady 100 years old.

Presented by Walter A. Satchell, Esq., 1879.

Specimens of Injuries and Diseases of the Skin in other parts of the Museum may be found by reference to the Series of General Pathology, of Diseases of the Bones, Lips and Cheek, Scrotum, Penis, and of the Breast.

See also a Collection of Specimens, Casts, and Drawings presented by Sir Erasmus Wilson, and described by him in a separate Catalogue.

Series XLVIII. DISEASES OF THE TESTICLE, AND ITS COVERINGS, THE EPIDIDYMIS, AND THE SPERMATIC CORD.

Diseases of the Tunica Vaginalis: 4130 to 4150 A.
Diseases of the Testicle: 4184 to 4261 A.
Diseases of the Epididymis: 4262 to 4288.
Injuries and Diseases of the Spermatic Cord: 4289 to 4298.

Diseases of the Tunica Vaginalis: 4130 to 4150 A.

Hydrocele: 4130 to 4140.
Bilocular and Double Sacs: 4141, 4143, 4145, 4167, 4171.
Hydrocele and Hernia: 4141, 4143, 4148.
Hydrocele and Varicocele: 4142.
Radical cure of Hydrocele: 4144 to 4149.
Chyle-like fluid and other unusual contents of Hydroceles: 4150, 4150 A.
Hæmatocele: 4151 to 4160.
Adhesions of layers of Tunica Vaginalis, with complete or incomplete obliteration of its cavity: 4161 to 4172, 4144 to 4149.
Multiple Cysts formed by incomplete adhesions of the Tunica Vaginalis: 4168 to 4171.
Calcification of the Tunica Vaginalis: 4172 to 4176 A.
Cysts in the Tunics of the Testicle: 4177, 4178.
Loose bodies in the cavity of the Tunica Vaginalis: 4179 to 4183.

Hydrocele.

4130. A testicle, with its tunica vaginalis, exhibiting the enlargement and distention of the latter, constituting simple hydrocele. It shows, also, the kind of recess, half-partitioned from the main cavity, which the distended sac forms by the side of the epididymis. *Hunterian.*

4131. A scrotum, with the testicles of a man who had double hydrocele of the tunicæ vaginales. The general form of the swelling from hydrocele is well shown; and the distended tunicæ vaginales are seen rising up and becoming

smaller in front of the spermatic cords, the component parts of which are separated.

4132. A testicle, with its tunica vaginalis. The sac of the latter was distended in a large hydrocele; it is thickened, opaque, and tough; and its serous surfaces have lost their smoothness. The testicle is situated near the junction of the lower and middle thirds of the posterior wall of the sac, and lies somewhat obliquely. There are two small pedunculated bodies on the upper part of the epididymis. *Hunterian.*

4133. A testicle, with the sac of the tunica vaginalis distended in a very large hydrocele. The tunic is but little thickened, and its internal surface is smooth and polished. The testicle is situated in nearly the same part of the sac as in the last specimen, but is placed vertically. There are two small cysts, containing a partly coagulated fluid, in the wall of the sac just above the testicle. The recess by the side of the epididymis is nearly effaced by the great enlargement of the sac. *Hunterian.*

4134. A testicle, with its tunica vaginalis, which was the seat of a hydrocele of moderate size. The connective tissue around the tunica vaginalis is dissected from it in a smooth layer, and looks like a second closed sac surrounding the sac of the hydrocele, connected to it at its posterior part, but at all other parts having a smooth and free internal surface in contact with the outer surface of the tunica vaginalis.

Hunterian.

4135. A testicle, with a hydrocele of moderate size. The blood-vessels are minutely injected, the interior of the testicle has been removed, and the tunica vaginalis and tunica albuginea are dried, with their cavities distended. The testicle is at the lower and posterior part of the sac. The vas deferens is shown ascending tortuously half an inch from the epididymis.

4136. A similar preparation. The vas deferens and epididymis, injected with mercury, are spread out at some distance from the testicle.

4137. A similar preparation. The hydrocele is smaller, and a layer of connective tissue has been reflected, like a second concentric sac, from the outer surface of the tunica vaginalis.

4138. A similar specimen, with a very small hydrocele. The cremaster muscle and its connective tissue are displayed above the sac of the hydrocele.

4139. A similar preparation. The sac of the hydrocele is more than usually elongated, and exactly pyriform. The testicle is situated at the middle of the posterior wall of the sac. The vas deferens and part of the epididymis are injected with mercury. They take their natural course in relation to the testicle.

4140. A similar preparation, with an elongated and very narrow sac. The testicle occupies the same relative position.

The six preceding specimens are from the Museum of Sir A. P. Cooper.

4141. A testicle, with hydroceles, the spermatic cord, and the sac of an old inguinal hernia. There are two distinct sacs connected with the testicle, both of which were alike the seats of hydrocele. The larger and posterior sac is not different from that of an ordinary hydrocele of the tunica vaginalis. It would contain about six ounces of fluid, and the testicle is at the lower part of its posterior wall. The smaller anterior sac is situated in front of the lower part of the other: it would hold between three and four ounces of fluid, and in structure also exactly resembles a distended tunica vaginalis. Its walls are tough, and about a quarter of a line in thickness; the partition between it and the posterior sac is com-

plete, smoothly covered with serous membrane on both sides, and from a quarter to half a line in thickness.

The hernial sac is situated just above the hydroceles. It is wrinkled, and bears marks of recent inflammation, the patient, a man 70 years old, having died soon after an operation for strangulated hernia. The hydrocele had existed twenty-five years. To account for its appearing double, it may be supposed, either that a layer of false membrane had divided an originally single sac, and had gradually become thicker and firmer; or, which is the more probable, that the anterior cavity is that of a sac which, like an encysted hydrocele of the spermatic cord, formed outside the original hydrocele, and became in course of time more closely connected with it.

From the Museum of R. B. Walker, Esq.

Some specimens of Partial Hydrocele, or collections of fluid in cavities left after the partial obliteration of the sac of the Tunica Vaginalis, are placed among the effects of Inflammation of the Tunica Vaginalis.

4142. A hydrocele, distended and dried after the injection of some varicose spermatic veins, which lie in a cluster on its upper part. The testicle is at the middle of the posterior wall of the sac. The vas deferens and part of the epididymis are injected with mercury.

From the Museum of Sir A. P. Cooper.

4143. A testicle, with parts of two large sacs attached to its posterior part, dried after the injection of the spermatic vessels. The tunica vaginalis was the seat of a small hydrocele, and the spermatic veins, in a varicose condition, formed a small tumour behind the testicle. Attached to the back of the tunica vaginalis is a large membranous cyst, between three and four inches in diameter, which was filled with fluid, and was described as encysted hydrocele; it probably originated by dilatation of an unobliterated portion of the vaginal process of peritoneum. And directly above this, and behind the spermatic vessels, which are attached, far apart from each other, to its anterior wall, is part of the sac of a large inguinal hernia.

From the Museum of Sir A. P. Cooper.

*Effects of Operations for the Cure of Hydrocele.**

4144. A testicle, with its coverings, and the spermatic cord. The tunica vaginalis was the seat of hydrocele, the cure of which was attempted by the application of a caustic. The sloughing extended through the tunica vaginalis, in which there is an aperture about a quarter of an inch in diameter. The testicle and epididymis are enlarged, and there are flakes of lymph upon their surfaces. At the upper part of the spermatic cord is the sac of an inguinal hernia.

Presented by Sir William Blizard.

* The following is from a letter, in the handwriting of Mr. Hunter, in the possession of Mr. Thomas M. Stone, the Assistant-Librarian of the College. The manuscript is superscribed:—

"*To Count Bruhl, Dover Street.*

"Mr. Hunter's compliments to Count Bruhl. He has drawn out a short sketch of the different cures for the hydrocele, which he hopes will be perfectly understood by the surgeons in Germany.

"Leicester Square, Saturday Evening.

"An hydrocele is perhaps one of the most innocent diseases that can afflict a human body; or, more properly speaking, is an effect of the most innocent causes. It is productive of no evil; it can only be an inconvenience, and that inconvenience can only arise from size.

"There is a relief called the palliative cure, which cannot be called a cure, only a temporary relief, as it commonly occurs again: this is simply letting the water out; for the sac which contains the water is the same as before.

"To perform a cure would be to hinder the accumulation of the water: but as we are not in possession of such powers, we are obliged to have recourse to the next best method, which is an obliteration of the sac which contained the water. To effect this, more methods probably have been proposed and put into practice than in any other disease in surgery. There are two ways in which this effect may be produced: one, and the most simple, is to produce such inflammation on the sac as will make the sides of the sac adhere to each other; and if this adhesion is complete, then no hydrocele can ever take place in this part afterwards. Another mode is to expose the sac in such a manner as to bring on suppuration: this is a more severe method than the above, because the inflammation must exceed the adhering stage, and it is more tedious: because suppuration must go on till the whole sac is consolidated by granulation.

To produce the first method, it was proposed by the first Monro of

4145. Two testicles, from the same person. Both the tunicæ vaginales were affected with hydrocele, and both are thickened. On the right side there is a large thickly-walled cyst immediately above the tunica vaginalis. On the left side, a thin layer of false membrane extends across the sac in front of the testicle, to which, as well as to the walls of the sac, it is closely adherent. Above the tunica vaginalis, on

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Edinburgh to make a puncture with a trochar into the bag of water, and let it out; then to inject by the same trochar some wine to excite inflammation and to let this wine out: then inflammation commences, and the sides of the sac adhere. If it was certain that this effect would always be produced, and that every part of the surface of the sac and testicle would adhere, then no more is necessary; but I am told, that these adhesions are not always perfect, which subjects the person to a relapse, and which has taken place, and it is probable that this was the reason of its being laid aside. Mr. Earle has again taken it up, and from his account it would appear to succeed as well as we could wish, but I have been informed that it does not always succeed; and that there are cases where, from experience, it does not, which I can easily conceive. To produce adhesions of the sac by means of suppuration and granulation, four methods have been recommended: one, the most simple in the operation, was to make a small opening and let out the water, then into this opening put a tent, or a little lint; this excited inflammation over the whole sac, and the whole sac suppurated, and the whole was obliterated. To produce the same effect, one recommended a caustic to be applied, about the size of a sixpence, and either to cut through the eschar, or let it slough off; another method was to pass through the sac a seton, which was an old practice revived by Mr. Pott; and the fourth was to open the sac from one end to the other, which is the most severe operation of the whole.

"Every one of these modes produced the same effect; and the same quantity of inflammation, suppuration, &c., succeeded; the only difference was in the operation itself; but none of these four methods were at all times perfect, the disease recurred again in some of all of them. An accident happened to a patient of mine at St. George's Hospital, which gave me an opportunity of finding out the cause of those relapses, which was, that the sac had not wholly inflamed and suppurated; therefore, to effect an universal suppuration over the whole surface of the sac, I have taken care that no two parts of the sac shall come in contact till it has suppurated; and to effect this, I put into the opening made into the sac (which is about two inches long) some flour, which I spread all over the inside with my finger, and then a little lint on the cut edges of the wound, and a poultice over the whole, then allow suppuration to take place, and the whole heals. If this flour is well introduced through the whole sac, every part must suppurate, and every part must unite, which makes the complete cure.

"In whatever way the cure is effected, there is no danger."

this side, an oval cyst, about an inch long, and possessing a distinct membranous wall with a polished lining, is placed in the front of the spermatic cord.

The patient, an old man, had long had double hydrocele. In the operation for the radical cure by injection of the sacs, part of the injected fluid escaped into the cellular tissue, and produced such severe irritation, both local and constitutional, as destroyed life.

From the Museum of Robert Liston, Esq.

4146. A testicle, with the sac of the tunica vaginalis distended by a small hydrocele. The testicle is wasted ; it is situated at the middle of the posterior wall of the sac, and from its anterior part a band of adhesion extends to the adjacent surface of the sac of the hydrocele, probably to the part at which, in tapping, a puncture had been made. The rest of the surfaces of the tunica vaginalis appears healthy.

From the Museum of Sir A. P. Cooper.

4147. A testicle, with part of the scrotum, after an operation for hydrocele. The skin is closely adherent to the exterior of the tunica vaginalis, at the part where the puncture was made ; and the surfaces of the tunica vaginalis are adherent. *Hunterian.*

4148. A testicle, on which the opposite surfaces of the tunica vaginalis became completely and closely adherent after the injection of a hydrocele.

From the Museum of John Taunton, Esq.

4149. A section of a right testicle, with the cavity of the tunica vaginalis completely obliterated by adhesions.

From a man, aged 60, who died with phthisis, over five months after a hydrocele of his right testicle had been cured by injection of iodine.

Presented by Dr. H. A. Lediard, 1878.

4150. A testicle, with the tunica vaginalis, which was distended by fluid ; it contains a deposit which, when recent, was pale

buff, without a trace of blood-corpuscles. Above is the sac of an inguinal hernia, completely distinct from the tunica vaginalis.

Removed after death from a man aged 72.

Presented by Thomas Wormald, Esq., 1864.

4150 A. A specimen of milk-like fluid withdrawn from a hydrocele of the tunica vaginalis of long standing. On shaking the fluid with ether, the milkiness disappeared. On analysis it was found to consist of fat, fibrinogen, para-globulin, serum, albumen, with chloride of sodium, and phosphate of lime. There were no spermatozoa. The hydrocele subsequently refilled, and on being tapped again, was found to contain fluid of the same kind. The appearance and composition of the fluid suggested that it might be chyle, which is the more probable since it was contained within a serous sac. (See Trans. Path. Soc. vol. xxxv. p. 250, 1884.)

Presented by Sir Henry Thompson, 1884.

Hæmatocele.

4151. A testicle, of which both the tunica vaginalis and tunica albuginea are considerably thickened and indurated. The sac of the tunica vaginalis is filled with masses of coagulated blood. The testicle is healthy, but compressed.

"*Hæmatocele of the Tunica Vaginalis.*

"In December last, 1781, Mr. Bennet felt an uneasy sensation in the scrotum. On his examining it, he perceived the left testicle swelled, with a small degree of hardness to the touch. He instantly took the alarm, and applied to a surgeon, who told him the disease was an hydrocele, or dropsy of the parts; to let it alone for some little time, when it would be necessary to perform an operation, which would effectually cure him.

"From that time to the beginning of March 1782, the swelling gradually increased; the pain becoming now acute, and the hardness increasing. About this period Mr. Farquhar and Dr. Saunders first saw him; they were of opinion the disease was complicate, and by no means clear; therefore desired him to do nothing for a fortnight or three weeks, and then to come to them again.

"In the mean time he was persuaded by his friends to apply to

a surgeon of their recommendation, who was noted for curing people in this manner. He was led to believe he would cure him directly, and with little pain; this induced Mr. Bennet to allow two or three punctures to be made in the usual manner for the palliative cure of the hydrocele, the surgeon assuring him this was the disease.

"On finding the failure of the good effects promised, he again applied to Mr. Farquhar, but with the inflammation, pain, and swelling much increased; indeed, so much so as to confine him to his room. The rapid violence of the symptoms he attributed to the late efforts to relieve him.

"About this time, Mr. Hunter was called in, and it was thought advisable to open the tumour, to find out the real nature of the disease, and then to act accordingly. This was done, and on examining the substance of the tumour, it appeared at first composed of a thick coat, and within that a grumous and gelatinous substance. From the appearances it was thought advisable to remove the whole, which was done.

"The tumour had communicated its diseased disposition to the skin, for it was adhering to it all round the fore part; some of this skin was removed with the tumour, but I apprehend not enough. On examining the tumour, it was found to consist of a thickened tunica vaginalis filled with a pretty firm coagulated blood, which in some parts had lost its red parts; the whole appearing mottled. The testicle was entire in its posterior part, only appeared to be squeezed into a smaller size than natural from the pressure of the substance which was in the tunica vaginalis." —*Hunterian MS. Cases in Surgery*, p. 706.

4152. A testicle, with its coverings. The tunica vaginalis and the tissues around it are thickened, consolidated, and indurated; they together form a laminated sac, with walls half an inch thick. The cavity of the tunica vaginalis is filled with firm masses of reddened fibrine and some branching portions of lymph. *Presented by Sir William Blizard.*

4153. A testicle and its coverings, from a case of hæmatocele. The walls of the tunica vaginalis are thickened and consolidated with the surrounding tissues, and its interior is lined by a deposit of finely laminated and reticulated coagulated fibrin. A vertical section has been made of the testicle, showing its structure unaltered.

Presented by John Hilton, Esq.

4154. A testicle, with the greater part of the spermatic cord.

The tunica vaginalis is thickened, indurated, and consolidated with the surrounding tissues, as in the preceding specimens of hæmatocele; it is lined with a thick, uneven, granular layer of fibrine or decolorized blood. The testicle is at the lower part of the sac. Above the tunica vaginalis there is a part of the sac of an inguinal hernia. *Hunterian.*

4155. An injected preparation of a testicle laid open, with the tunica vaginalis thickened and lined with layers and bands of false membrane, probably the result of a hæmatocele. One layer, extremely vascular, is closely adherent to the visceral layer of the tunica vaginalis, yet is quite distinct from it, as may be seen at the upper part of the incision into the testicle.

Presented by Thomas Wormald, Esq., 1865.

4156. A testicle, with the tunica vaginalis which was the seat of a large hæmatocele. The tunica vaginalis is thickened and indurated; and its cavity, which contained a large quantity of coagulated blood and lymph, is traversed by several broad bands of delicate false membrane, one of which forms an almost complete horizontal partition across it. The testicle is reduced in size; it is placed transversely at the upper and back part of the distended tunica vaginalis, above the horizontal partition just mentioned.

From a man, 70 years old, who died with rupture of the bladder, consequent on enlargement of the prostate.

From the Museum of George Langstaff, Esq.

4157. A testicle, with parts of its coverings and of the scrotum. The tunica vaginalis was the seat of a large hæmatocele. It is much thickened; its external surface has coalesced with the surrounding thickened and indurated tissues, forming a great laminated sac, with walls from one to three quarters of an inch thick; and its internal surface is covered with flakes and irregular masses of fibrine, and clots of blood. The testicle, of which a section is shown at the anterior and lower part of the preparation, is enlarged and indurated. *Presented by Sir William Blizard.*

4158. Section of the "testicle of a man, extracted at St. George's Hospital by Mr. Gunning. The tunica vaginalis being filled with a fluid, it was supposed to be a hydrocele, but proved to be a very bloody serum. The body of the testicle and tunica vaginalis were furred over with red coagulated blood, which proved to be very vascular when injected. The coagulated blood is turned down in two places." (*Hunterian MS. Catalogue.*) The testicle is enlarged, and at its upper and posterior part are two circumscribed deposits of a soft pale yellow substance like tubercle, and described by Mr. Hunter as "scrofulous increase." The tissues external to the tunica vaginalis are greatly thickened, indurated, and increased in vascularity.

4159. The other section of the same testicle. The colour of the injection is altered by the action of the fluid in which it has been immersed. A portion of the tunica vaginalis is preserved in No. 144. *Hunterian.*

4160. A testicle, with its tunica vaginalis, which was the seat of a large hæmatocele. The tunica vaginalis is thickened and unnaturally vascular, and lymph is deposited in flakes on its inner surface and on the exterior of the testicle. Around the lower part of the distended sac of the hæmatocele there is a second sac, with a smooth and free internal surface, in contact with the outer surface of the tunica vaginalis. The origin of the second sac is uncertain; but, probably, it was formed by fluid either escaping or being injected into the cellular tissue around the tunica vaginalis. *Hunterian.*

Adhesions of the Layers of the Tunica Vaginalis.

4161. A testicle, reduced in size, with complete adhesion of the opposite surfaces of the tunica vaginalis by false membrane formed between them. *Hunterian.*

4162. A testicle, of unnaturally small size. The lower half of the cavity of the tunica vaginalis is obliterated by the

adhesion and intimate union of its opposite surfaces. The rest of the membrane is thickened. A small pedunculated body is attached to the front and upper part of the epididymis, which is indurated and has an uneven surface.

Hunterian.

4163. A testicle, with the opposite surfaces of the tunica vaginalis closely adherent at every part, except in a small extent anteriorly.

4164. A testicle, from which the glandular substance has been removed by dissection. It appears to have been enlarged, and the posterior parts of the surfaces of the tunica vaginalis are adherent. The part of the sac which remains unobliterated in front is distended and laid open. Immediately above the testicle, and in front of the spermatic cord, there is a cyst, with very thin membranous walls, smooth on its inner surface, and about an inch in diameter.

4165. A testicle, on the lower part of which the surfaces of the tunica vaginalis are closely adherent. The rest of the sac of the tunica vaginalis was distended in a small partial hydrocele. There is also a small separate cyst upon the upper part of the epididymis.

4166. A testicle, on the lower half of which the opposite surfaces of the tunica vaginalis are closely adherent. The rest of the cavity was distended in a partial hydrocele, and contains a small thin flake of lymph.

4167. A testicle, on the lower part of which the surfaces of the tunica vaginalis are closely adherent. At the upper part the sac is in some places distended, and in others its surfaces are united by adhesions, so that it must have formed a kind of multilocular hydrocele.

The five preceding preparations are from the Museum of Sir A. P. Cooper.

4168. Section of a testicle, and of cysts connected with it. The cysts are three in number; the largest is above, and in front of the testicle; the others are behind and below it. The opposite surfaces of the tunica vaginalis are closely adherent over all the front of the testicle, and where they are not adherent they are continuous with the walls of the cysts; so that it is most probable that those which appear like distinct serous cysts are portions of the tunica vaginalis, which became distended with fluid after the rest of the cavity had been obliterated by adhesion.

Hunterian.

4169. A testicle, with two large oval membranous cysts, which, after the injection of the spermatic artery, veins, and vas deferens, have been emptied, distended, and dried. One of the cysts, about an inch in diameter, is in front of the body of the testicle, and in close contact with its anterior surface. The testicle has been opened through the posterior part of this cyst, and its interior has been removed. The other cyst is above the testicle; it is nearly two inches in diameter, and communicates with the preceding by a small oval aperture at its lower part. The cavity of the tunica vaginalis is not shown; and it is probable that, like those in the preceding preparation, these, which appear like new-formed cysts, are portions of the cavity of the tunica vaginalis remaining unobliterated when the rest was closed.

From the Museum of Sir A. P. Cooper.

4170. A similar specimen. Each of the cysts is in this case nearly two inches in diameter; one covers the whole front of the testicle, the other is situated above it and in front of the cord. They do not communicate with each other, but the upper one is somewhat sacculated at its lower part.

From the Museum of Sir A. P. Cooper.

4171. A similar specimen; the arteries are injected, and the parts are not completely dried. The testicle, of which the texture appears consolidated, has been laid open from

behind. The characters of the cysts, and their relations to each other and to the testicle, are as in the preceding specimen. They also communicate by a small oval aperture.

From the Museum of Sir A. P. Cooper.

Calcification of the Tunica Vaginalis.

4172. Portion of a tunica vaginalis, thickened, and having two small plates of bone-like substance in it. *Hunterian.*

4173. A testicle and tunica vaginalis. The cavity of the latter is enlarged; its walls are thickened, and upon its inner surface are some rough calcareous deposits.

4174. A section of a testicle and tunica vaginalis, injected and dried. The cavity of the tunica vaginalis is enlarged, and its wall is converted into a nearly complete layer of calcareous substance. It contained a thick greenish-yellow fluid, with a large quantity of cholesterine. The testicle is altogether below the cyst, and was normal in structure.

Presented by Richard Partridge, Esq., 1869.

4174 A. A much dilated tunica vaginalis, of which the walls are quite firm, from calcification. A thin layer of the atrophied testicle may be seen on one side of the cut surface; the remainder was removed in laying open the sac. The nature of the cyst at the upper part of the specimen is uncertain.

The sac contained serous fluid, and may be regarded as an old hæmatocele. It was removed from a man aged 70.

Presented by Sir T. Spencer Wells, 1883.

4175. Part of a tunica albuginea, with its vessels injected and dried, exhibiting an irregular granulated mass of osseous or

calcareous substance formed in it, and projecting from both its surfaces.

The specimen is figured in Sir A. P. Cooper's 'Observations on the Structure and Diseases of the Testis,' pt. 2, pl. xiii. fig. 3.

From the Museum of Sir A. P. Cooper.

4176. A specimen, similarly prepared, and exhibiting several minute deposits of osseous or calcareous substance in the tunica albuginea. *From the Museum of Sir A. P. Cooper.*

4176 A. A testicle, with the tunica vaginalis, which was the seat of a hydrocele, laid open. On the inner surface of the thickened parietal layer of the tunica vaginalis are numerous closely approximated scales of calcareous matter, chiefly of small size; they are thickest on the parts forming the upper margin and sides of the specimen. A smooth-walled cyst, three quarters of an inch in diameter, is situated over the head of the epididymis; it contained granular corpuscles and granular matter insoluble in ether, but no spermatozoa.

Removed from a native of the West Indies, aged 32, who had noticed a swelling in the scrotum for six years. The hydrocele was translucent.

Presented by Walter Rivington, Esq., 1885.

Cysts in the Tunics of the Testicle.

4177. Section of a testicle, on the front surface of which there is an oval smooth-walled cyst, an inch in diameter, and seated, apparently, in the substance of the tunica albuginea, or between it and the tunica vaginalis immediately investing it. The parietal layer of the tunica vaginalis is adherent to the lower part of the testicle, but is free opposite the cyst, and is there turned back. The cyst has a smooth lining membrane; externally it is bounded by a tough layer of tissue as thick as the tunica albuginea and, apparently, at the upper part continuous with it; and, on its internal surface, the cyst is separated from the proper substance of the testicle by another layer of tough tissue, rather more

than a line in thickness. The substance of the testicle appears healthy.

The preparation is figured and described in 'A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum,' by T. B. Curling, London, 1843, p. 189.

Presented by T. Blizard Curling, Esq.

4178. A testicle, with a cyst (perhaps of the same kind as that last described) at its upper and anterior part. The parts have been injected, emptied, distended, and dried; the tunica vaginalis, distended by the growth of the cyst, is also displayed. The cyst is spherical, and upwards of an inch in diameter. *From the Museum of Sir A. P. Cooper.*

*Loose Bodies in the Cavity of the Tunica Vaginalis.**

4179. Four small oval masses, composed chiefly of earthy matter, which were loose in the cavity of a tunica vaginalis.

From the Museum of Sir A. P. Cooper.

4180. A globule of earthy matter, from the cavity of a tunica vaginalis.

"*November*, 1757.—There was an old man dissected at our house. On taking out the lungs, I found a large piece of bone lying across the ribs of the right side, just at their angle, before the sixth, seventh, and eighth ribs. The lungs of that side adhered everywhere, and the piece of bone seemed to adhere more firmly to the lungs than the ribs; however, when I separated it from the lungs, they were found perfect at that part; and, when separated from the ribs, they just appeared as when the pleura is taken off; the same with regard to the intercostal muscles.

"This piece of bone is above three inches long, and above one broad, and is something of this shape, with the crooked point turned out from the spine.

"This appeared to me to be an ossification of the pleura;

* In connection with these specimens, to which they are probably nearly related, those of Pendulous Growths on the Epididymis may be referred to, in Nos. 4275 to 4277.

besides this, almost all the vertebræ of the spine were anchylosed; likewise the bones of the pelvis.

"On cutting into the tunica vaginalis, I found two small stony concretions lying loose; from the outer surface of one of them I could take a pretty thick covering, like the hull of a soft pea, somewhat gelatinous, transparent, and pretty firm. After I had taken off this, it looked like a bit of stone; I steeped it in acid, and when the acid had gone a little way deep there remained something like the former substance surrounding the remaining bone in the middle, as before.

"Quere, How were these formed? for they were loose. They must have been adhering at first; then were detached by some accident: something like the bone in the knee of some people, viz., Scott, in my Surgery Observations (Monro, on [in ?] Medical Essays)."—*Hunterian MS. Dissections of Morbid Bodies.*

4181. A small rounded body with a smooth external surface and no trace of any pedicle. It was excised from the tunica vaginalis testis.

The case is thus described in the donor's work 'A Practical Treatise on the Diseases of the Testis,' 4th ed. p. 151. "On cutting into a thickened sac after the failure of a strong iodine injection to cure a hydrocele in a man aged 23, I noticed the escape of a loose body, the size of a small grape. This loose body was no doubt the cause of the non-success of the operation."

Presented by T. Blizard Curling, Esq, 1868.

4182. Small portions of cartilaginous substance, removed, probably, from the cavity of the tunica vaginalis.

4183. Similar specimens.

With the preceding from the Museum of Sir A. P. Cooper.

Diseases of the Testicle : 4184 to 4261 A.

Hypertrophy : 4184 ?
Atrophy : 4185 to 4187.
Effects of Inflammation : 4188 to 4191.
  Chronic Orchitis : 4188 to 4191.
Hernia or Fungus Testis : 4192 to 4198.
Syphilitic Disease : 4199 to 4200 A, 4193 ? 4197 ? 4201 ? 4202 ? 4202 A, 4217 ?
Tuberculous Disease : 4203 to 4215.
Doubtful Disease : 4216.
Cysts and Morbid Growths : 4217 to 4261 A.
  Retention Cyst : 4217.
  Enchondroma : 4218.
  Cystic Fibroma and Chondro-fibroma : 4219 to 4225.
  Chondro-sarcoma : 4226, 4227.
  Myxo-sarcoma : 4228 to 4232.
  Cystic-sarcoma : 4233 to 4237.
  Sarcoma : 4238 to 4246.
    Round-celled : 4238 to 4240.
  Cancer : 4247 to 4259.
    Hard or scirrhous : 4247.
    Soft or medullary : 4248 to 4259.
  Doubtful Tumours : 4260 to 4261 A.

Hypertrophy.

4184. An hypertrophied right testicle from a Monorchis. When prepared for maceration by cutting away the tunica vaginalis, the testicle weighed two ounces, two drachms, and two scruples. It is healthy in structure, and its epididymis was loaded with secretion. Although a careful examination was made, no testicle could be discovered on the left side.

It was removed in 1844, by Mr. Page of Carlisle, from the scrotum of a lad, aged 17, who died from injuries received in a steam sawing-machine.

Presented by T. Blizard Curling, Esq.

Atrophy.

4185. A testicle, with the vas deferens and vesicula seminalis of the same side, dried. The testicle was atrophied. The vesicula seminalis is of usual, or more than usual, size.

4186. The left testicle of an adult, reduced by atrophy to a small elongated body, and the vasa deferentia, vesiculæ seminales, and prostate gland. The left vesicula seminalis is of its natural size, the right is not more than half as large. Bristles are placed in the ejaculatory ducts.

The preparation is figured in Sir A. P. Cooper's 'Observations on the Structure and Diseases of the Testis,' London, 1830, part 1, pl. x. fig. 2.

4187. A hydrocele, of about four inches in its chief diameter. The testicle is situated just below the middle of the posterior wall, and is reduced by atrophy to about one third of its ordinary size.

Effects of Inflammation.

4188. Section of a testicle, in which a great part of the tubular structure is replaced by a dense fibrous-looking tissue, probably lymph effused in acute inflammation of the substance of the testicle, and subsequently organized. The tunica vaginalis is thickened and indurated, and, except at the upper part, its opposite surfaces are closely adherent. There is a small cyst in the situation of the upper part of the epididymis. The blood-vessels are minutely injected.

4189. A testicle, in which the tubular substance is similarly, but more extensively, diseased. The fibrous cords which traverse the cavity of the tunica albuginea (the *septa testis* of Sir A. Cooper) are thickened. The opposite surfaces of the tunica vaginalis are adherent, thickened, indurated, and consolidated with the surrounding tissues.

4190. A similar specimen, cut vertically and from behind forwards through the epididymis.

The six preceding specimens are from the Museum of Sir A. P. Cooper.

4191. A testicle, reduced in size. Its substance is indurated, and a mass of bone is adherent to the inner surface of the tunica

albuginea. This was probably formed by the calcification of new tissue, like that shown in the preceding specimen.

Hunterian.

Protruding (Hernia or Fungus) Testis.

4192. Two sections of a diseased testicle which has protruded through an ulcerated opening in the scrotum. The margins of this opening are firmly adherent to the projecting surface, which is composed of seminiferous tubules capped with a layer of granulations.

The patient was a labouring man and it was removed at his own request.

Presented by Edward Cock, Esq., 1867.

4193. Section of a testicle, with a part of the scrotum. The testicle and epididymis are enlarged; the substance of the former is consolidated by increase of fibrous tissue, and its surface is covered with a layer of material, probably gummatous, which, covered with granulations, is protruded through an ulcerated opening in the scrotum. All the coverings of the testicle are consolidated about the opening in the scrotum. Before the extirpation of the testicle, the protruding mass had been superficially removed.

From the Museum of Robert Liston, Esq.

4194. A testicle, with a part of the scrotum. The structure of the testicle is consolidated, and its anterior part, covered with granulations, is protruded through the front of the scrotum. The tissues around the testicle and cord are thickened and indurated.

Presented by Sir William Blizard.

4195. Section of a testicle, which protruded through a large ulcerated opening in the tunica albuginea and its other coverings, and was therefore removed with the surrounding portion of the scrotum. A small portion of the substance of the testicle is indurated; the rest of it is healthy. Its protruded surface is covered with granulations. The tunica albuginea may be traced to the margin of the base of the

protrusion, where it ceases abruptly. The tissues external to the tunica albuginea also appear healthy.

Presented by Sir William Lawrence.

4196. Section of a testicle, of which the upper and anterior part is protruded through an ulcerated opening in the surrounding tissues, in the form of a circular, flat, soft, granulating growth. The surface of the protruded substance is blackened by the action of some caustic. Behind the epididymis, and closely connected with it, is a thickly-walled cyst, about an inch and a half in diameter, on the interior of which there are small flakes of lymph. *Hunterian.*

4197. A testicle, with part of a scrotum. The natural texture of the testicle is destroyed, and replaced by fibrous tissue and gummatous material. A considerable portion of it is protruded, with an irregular granular and sloughing surface, through an ulcerated aperture in the scrotum. The protruded part is much paler than the rest of the testicle; it appears to be the seat of a distinct, compact, yellowish-white, probably gummatous deposit.

4198. A testicle, at the lower part of which there is a large flattened nodulated growth of uncertain nature.

From the Museum of Sir A. P. Cooper.

Syphilitic Disease and similar Changes.

4199. A testicle, enlarged and indurated by syphilitic deposit among the tubuli, which have completely disappeared. It is heavier and harder than natural, though not altered in shape; it measures two and a half inches by an inch and a half. The epididymis is much wasted and hardened. The greater part of the cut surface is yellowish, but was pink when fresh; it appears uniform and finely fibrillated, with a few patches of gummatous material. Under the microscope, the main part of the gland was found to be converted into fibrous tissue, without any distinct trace of tubuli;

the patches were masses of granules, oil-globules, and cholesterine.

From a man aged 32, who died of bronchitis and syphilitic disease of the larynx, shortly after both testicles had been reduced in size by iodide of potassium, these glands having previously become much enlarged. After death both were found to be affected in a precisely similar manner. For a full history of the case, see MS. Notes, vol. i. p. 104. It is referred to in the donor's 'Diseases of the Testicle,' 4th ed. p. 303 (footnote).

Presented by T. Blizard Curling, Esq., 1868.

4199 A. One half of a much-enlarged testicle. Its internal surface is smooth, and its cut surface is dense, firm, and nearly homogeneous, but in the recent state was indistinctly fibrous, and dotted with pale yellowish patches.

From a man who, two years previously, had been treated for syphilis.

Presented by Jonathan Hutchinson, Esq., 1883.

4200. Section of a testicle, described as being enlarged by the deposition of what was regarded as scrofulous matter throughout its substance. The parts intervening between the morbid deposits are dense and fibrous. The testicle has the appearances of syphilitic disease with gummata.

Hunterian.

4200 A. A testicle, in the interior of which there are several masses of substance described as "scrofulous." One of these, at the upper part of the body of the testicle, is cut through, and exhibits at its centre a small cavity bounded by a fine flocculent substance. The sac of the tunica vaginalis is obliterated. The specimen bears much resemblance to the foregoing, but its characters are obscure.

Hunterian.

4201. A testicle partly injected, with a portion of the scrotum to which it is closely adherent. Its cut surface has lost the normal appearance at most points, bands of fibrous tissue radiating through the gland-substance. A sinus runs far

into the testicle, and opens externally through the scrotum, which is deeply puckered around its orifice. The appearances of the gland are not unlike those of syphilitic fibroid disease.

From a man aged 29, who said that he had never had syphilis, but was subject to rheumatism. Fifteen months before its removal this testicle (the right) began to enlarge, and in two months an abscess formed, which burst, leaving a sinus; through this a second abscess burst. When the right was removed, the left testicle was very hard and irregular, but not enlarged; it became softer after the administration of iodide of potassium.

Presented by T. Blizard Curling, Esq.

4202. A vertical antero-posterior section of a testicle, enlarged to over three times its normal size and injected. Its body is largely occupied by a mass of tough, homogeneous, yellow material like a gumma, in the midst of which patches of gland-substance remain. Bands of organized lymph pass between the opposite layers of the tunica vaginalis. The epididymis is unaffected.

From a sailor, subject to enlargement of both testicles for three years, during which period he lost flesh; his mother had died of phthisis. He had no trace of syphilitic affection; his urine contained excess of phosphates, and he felt pains in the loins. After the left testicle was removed, the right returned to its normal size. For a full account of the case, see MS. Notes, vol. i. p. 192.

Presented by T. Blizard Curling, Esq., 1869.

Tuberculous or Scrofulous Disease.

4203. Section of a slightly enlarged testicle, in the substance of which, as well as in the epididymis, there are numerous masses of compact, homogeneous, pale yellow tuberculous matter. Some of these are small, oval, and isolated; but most of them are larger, as if formed by the coalescence of smaller masses. Their cut surfaces are firm and smooth. The substance of the testicle adjacent to the tuberculous deposits appears healthy; and they are rendered very distinct by the injection of the blood-vessels, none of which appeared to have entered them.

From a middle-aged man who died with phthisis.

The preparation is figured in 'A Practical Treatise on the Diseases of the Testicle, and of the Spermatic Cord and Scrotum,' by T. B. Curling, London, 1843, p. 234.

Presented by T. Blizard Curling, Esq.

4203 A. An injected preparation of a right testicle affected in a similar manner to the preceding specimen, but to a greater extent. The deposit of yellow homogeneous material occupies the body of the testicle only in small patches, but has invaded the entire mediastinum and epididymis, and is deposited in a layer a quarter of an inch thick, on the visceral reflexion of the tunica vaginalis. The outline of the tunica albuginea remains distinct; blood-vessels permeate the deposit to a considerable depth. There is a large ulcer of the scrotum an inch in diameter, exposing the deposit on the tunica vaginalis; the borders of the ulcer are not adherent to the deeper structures.

From a young man aged 24. The testicle and its coverings had been diseased for eighteen months, when it was removed; a large open sore had formed in the scrotum, at the bottom of which the yellow material was plainly visible. See Trans. Path. Soc. vol. xx. MS. Notes, vol. i. p. 176; and the donor's 'Diseases of the Testicle,' 4th edition, p. 294.

Presented by T. Blizard Curling, Esq., 1869.

4204. A testicle, cut through transversely, and exhibiting in its interior a small well-defined deposit of pale yellow, compact, uniform, tuberculous matter. The adjacent part of the testicle and the tunica vaginalis are healthy in both size and structure. The blood-vessels are minutely injected, but none of the injection appears to have entered the tuberculous matter. *From the Museum of Sir A. P. Cooper.*

4205. A testicle, in the substance of which there are several deposits of a compact, pale, yellowish-white, tuberculous substance. Most of the deposits are isolated and spherical, but some have coalesced into irregular forms. The testicle is a

little enlarged, and is knobbed by the projections of the morbid deposits; the tunica vaginalis is not adherent.

From the Museum of Sir A. P. Cooper.

4206. A testicle and spermatic cord, injected and laid open. Both contain deposits of yellow material, chiefly consisting of caseating tubercle; the vas deferens is involved in the disease. The body of the testicle is enlarged to three inches in its vertical diameter, but its outer surface is smooth and not broken-down at any point.

From a man aged 37. The testis had been enlarging for three years when it was removed: the cord had been affected for two years. During this period effusion took place into the tunica vaginalis, which was twice tapped, and then injected with iodine. He always had looked delicate, yet stated that he had been in good health all his life, and had never contracted syphilis. See MS. Notes, vol. i. p. 41.

Presented by John Hilton, Esq., 1865.

4207. An injected testicle, laid open by two vertical incisions, showing a large, opaque, yellow mass of caseating tubercle in its substance.

From a young man aged 24. An ulcer formed on his wrist, in consequence of an injury; his health rapidly deteriorated, and he died of very acute phthisis, with tubercular disease of the kidney (see No. 3576 A). See MS. Notes, vol. ii. p. 238.

Presented by T. Warner Lacy, Esq., 1876.

4208. Section of a testicle, enlarged to about three times its natural size, and having in its lower half an irregular but circumscribed deposit of a compact buff-yellow tuberculous substance. The blood-vessels have been injected; the tissue next the morbid deposit appears more vascular than the rest, but it is not otherwise altered. *Hunterian.*

4209. A testicle, enlarged to about four times its natural size by the formation of two masses of pale yellowish-white and compact tuberculous matter in its interior. Nearly all the natural structure is removed, or spread around the diseased

substance; what remains appears healthy, and is of the ordinary degree of vascularity. The surfaces of the tunica vaginalis are adherent at the upper part; and, either upon, or in the substance of, the adhesions, are three small thinly-walled cysts, of which one appears full of tuberculous matter, and the others are empty, but appear to have been similarly filled. On the posterior and lower part of the testicle there is another similar empty cyst.

From the Museum of Sir A. P. Cooper.

4210. Testicles, with the vasa deferentia, vesiculæ seminales, and prostate gland. The testicles are slightly and uniformly enlarged; their natural structure appears to have been removed and replaced by a compact, uniform, pale yellowish substance, like moderately firm tuberculous matter. There is a similar substance in the vasa deferentia, and the prostate gland and vesiculæ seminales are completely filled with it. In the vesiculæ seminales it appears softer, and is broken up into a coarsely granular and grumous substance like ordinary softened tubercle.

From the Museum of Sir A. P. Cooper.

4211. Section of a testicle, exhibiting numerous deposits of a pale yellow tuberculous substance at its posterior and middle part. The deposits have a branched arrangement, and some of them have channels in their central parts, as if they were connected with tubules.

From the Museum of Sir A. P. Cooper.

4212. A testicle, with its coverings and the spermatic cord. The testicle is enlarged to nearly four times its ordinary size by deposits of pale yellow, firm, tuberculous substance. Some of the deposits are isolated, small, round, and oval; but most of them have coalesced in one large irregular mass. At the anterior part some of the tuberculous matter is softened. The proper substance of the testicle cannot be discerned. It appears to have been consolidated around the

tuberculous matter. The tunica albuginea is thickened, and the opposite surfaces of the tunica vaginalis are closely adherent. There are several large thin-walled cysts in the spermatic cord, two of which have been laid open.

The patient was 30 years old. The disease of the testicle was in progress for twelve months, and his health was much affected by it. The cysts in the spermatic cord were repeatedly tapped, but always filled again; and they rendered the extirpation of the testicle unusually difficult. Four years after the operation the patient was in good health.

The case is further related in 'The Lancet,' December 12, 1835; and in Mr. Langstaff's 'Catalogue,' p. 369.

From the Museum of George Langstaff, Esq.

4213. A testicle, in the middle of which is a round mass of soft, granular, pale-yellowish, tuberculous matter partially softened. The adjacent part of the testicle is healthy, and the whole organ is of ordinary size.

From the Museum of Sir A. P. Cooper.

4214. A testicle, of which nearly the whole interior is occupied by a pale yellowish-white tuberculous substance, nearly uniform, and compact, except at its centre, where there is an irregular cavity, as if the morbid substance were softened and broken. The proper substance of the testicle is firm and pale, and appears indurated. The opposite surfaces of the tunica vaginalis are adherent.

From the Museum of Sir A. P. Cooper.

4215. A testicle, with the surrounding tissues, and a portion of the anterior part of the scrotum. By the side of the latter there is an aperture leading to an abscess, which extends, external to the obliterated cavity of the tunica vaginalis, round more than half the body of the testicle. The place of the testicle itself is occupied by a firm substance, described as scrofulous, and appearing to consist of numerous round coalesced masses of tubercle. *Hunterian.*

4216. "A section of the testicle of a Bull, in a diseased state, showing the tubuli testis" (*Hunterian MS. Catalogue*). They appear to have been unravelled and separated by fluid collected among them.

Cysts and Morbid Growths.

4217. A testicle and its coverings. The lower part of the organ contains a large oval cavity, about one and a half inches in its longest diameter, which contained a sanguineous fluid; it is bounded below by the coverings of the testicle, and its walls are smooth. Just above the larger cavity a smaller cyst is cut across. The parenchyma of the testicle is converted into a firm, fibrous tissue, containing small firm masses of yellowish material. The layers of the tunica vaginalis are adherent.

Microscopic sections taken from the tissue behind the cyst showed numerous dilated tubules lined with a single layer of short columnar epithelium, and also many compressed and atrophied tubuli. The stroma was composed of dense fibrous tissue. The position and structure of the tubules, and the presence of compressed remnants of tubules, suggest that they are dilated ducts of the rete testis, and that the cysts originated from ducts, portions of which had been obliterated by an increase of the stroma.

From a man aged 40, who had had constitutional syphilis. The cyst had been tapped several times, and "fluid blood had been let out."

Presented by Jonathan Hutchinson, Esq., 1882.

4218. Section of a testicle, in which a large tumour has grown, and the natural texture of the gland cannot be discerned. The greater part of the tumour is composed of a firm, pale, and obscurely fibrous substance, within which there are a few small oval cavities with smooth and polished internal walls, and a great number of closely-grouped masses of cartilage, pure white, compact, and irregularly shaped. On one surface of the specimen the cysts and portions of cartilage are shown in sections; on the other, the natural form of the portions of cartilage is exposed by the removal of the other structures of the tumour from their surface.

From the Museum of Sir A. P. Cooper.

4219. Section of a testicle, removed by operation. Its natural structure is not discernible: its place is occupied by a tumour of the same kind as that last described, consisting of a firm substance, intersected and, as it were, partitioned into lobes by wavy, shining, fibrous bands, and having small cysts thickly scattered in its interior. The tumour is of regular and smoothly oval shape; it measures five inches in its greater, and three in its lesser diameter. The cysts are for the most part oval, and measure from a line to half an inch in diameter; their walls are thin, smooth, and well defined; some of them contain a material "like softened tubercle," others, which are now empty, were filled with a "brownish glairy fluid." The tunica albuginea is thickened. The upper part of the sac of the tunica vaginalis contained a dark-coloured serum: the rest is obliterated.

From a middle-aged man, in whom the disease had existed twelve months, and had, at the last, increased rapidly. The epididymis was slightly enlarged, but appeared healthy in structure.

From the Museum of Robert Liston, Esq.

4220. Section of a testicle, together with some of the surrounding parts, in which there is a large cystic tumour. The greater part of the cavity of the tunica vaginalis, distended by the growth of the tumour, is obliterated by adhesions. A small portion remains free at the front and upper part. Here, also, the section of the tunica albuginea may be seen, and beneath it some of the tubular substance of the testicle, apparently of healthy texture, spread-out in a layer from one to three lines in thickness over the upper part of the tumour. The surface of the tubular substance is adherent to that of the tumour, which it thus partially envelopes; so that they could not be cleanly dissected from one another. The tumour is of regular oval form, smooth on its surface, and measuring about five and four inches in its chief diameters. It is composed almost exclusively of tough-walled cysts, connected into a compact elastic mass by their opposed walls, and a small quantity of intermediate, tough, and apparently fibrous tissue. They are for the most part of

an oval shape; they are all simple, and vary in diameter from a line to half an inch. Their interiors are smooth and polished; their walls are not separable by dissection from the surrounding substance. They probably contained serous fluid. The cyst-spaces or tubes were, in places, of considerable length, and smaller tubes opened into the larger ones. Many of them communicated, as was shown by fluid which had been injected into one cyst issuing from others at some distance off.

Examined with the microscope in 1883, the tumour showed large tubules, lined with many layers of epithelium, which, in places, formed papillary projections into the lumen of the tubule. The cells forming the outermost layer were elongated; upon these were several layers of small spheroidal cells, which became transformed into very large nucleated pavement-cells; by the flattening and cohesion of the pavement-cells concentric laminæ were formed, which filled up the interior of many of the tubules; to these masses of epithelium the name of "epidermic pearls" has been given. The stroma consisted of fibrous tissue containing a very few nodules of cartilage, some masses of tissue rich in round cells, some mucous connective tissue, and was intersected by fasciculi of spindle-cells; but it was impossible to determine whether the latter were composed of organic muscular tissue or ill-developed connective tissue.

Hunterian.

4221. Another portion of the same testicle and tumour.

The preparation is engraved in Baillie's 'Morbid Anatomy,' fasc. viii. pl. viii. fig. 2, as "a large portion of a testicle, which had been converted into a mass of hydatids" (p. 182).

4222. A testicle, much enlarged by cystic disease, and injected. Its outer surface is almost uniformly smooth, only one small tubercle projecting from it under the tunica albuginea. A considerable portion of the natural secreting structure remains at the upper and anterior part. The tumour consists of a mass of cysts, most of which are minute, but some are a third of an inch in diameter. The greater number of them contained a clear, nearly colourless, slightly albuminous fluid; some were filled with white, opaque, soft,

curdy matter. Many nodules of cartilage were scattered throughout the tumour.

Microscopically examined in 1883, the specimen resembled in many respects the preceding; but the stroma was much more abundant, and contained many ill-developed connective-tissue elements, round and spindle-cells being thickly scattered throughout it. The cartilage was also more abundant. The cysts contained large pavement-cells and cells undergoing granular and colloid degeneration.

Presented by Edward Cock, Esq., 1868.

4223. Section of a large oval tumour growing in and replacing the natural structure of the testicle. The main bulk of the tumour is composed of numerous irregularly shaped, variously sized nodules of translucent hyaline cartilage. The intervals between these are filled up with firm, pale, fibrous tissue, containing numerous cavities or cysts with smooth lining membranes, and in form flattened and adapted to the shape of the surface of the cartilaginous nodules among which they are placed. In the upper part of the preparation are some larger cavities, formed apparently by the softening and disintegration of portions of the substance of the tumour.

Microscopically examined in 1883, the tumour consisted of loose fibrous tissue, containing many nodules of cartilage and, in some parts, cysts. The cartilage, as in the other specimens, consisted of nucleated, round, oval, or rarely stellate cells enclosed in a hyaline or faintly fibrillar matrix, forming narrow bands between the cells. The nodules, in many instances, were surrounded by a layer of transparent connective tissue, and at their periphery were round and spindle-shaped nuclei, which were becoming transformed into cartilage.

Presented by Henry Hancock, Esq.

4224. Section of a tumour, almost identical in structure with the preceding, but without any cavities resulting from disintegration of tissue.

In microscopic structure the stroma of the tumour was more fibrous, and the cartilage more nearly resembled fibro-cartilage than No. 4223. Several small rods or cylinders of round cells were scattered about. Examined in 1883.

4225. A testicle, affected with cystic chondro-fibroma. The section shows the upper part to be soft, without much formation of cysts; the lower (separated from it by some fibro-cartilaginous bands) is of a much tougher consistence, and contains cysts, originally filled with fluid which yielded mucin on chemical examination. Some healthy seminiferous tubes are spread over the lower part of the growth. The inferior portion of the epididymis is healthy. The cavity of the tunica vaginalis is mostly obliterated below, but above is distended, and large nodules of tumour-substance project into it from the surface of the diseased testicle. On microscopical examination the tumour was found to consist of embryonic cartilage, mingled with dense connective tissue.

For full notes and drawings of the case, see MS. Notes, vol. ii. p. 86.

Presented by Sir W. Fergusson, Bart., 1873.

4226. A section of a testicle, much enlarged. Its cut surface shows it to be converted into a sarcomatous mass, yellowish in appearance, with interlacing bands of fibres. Inferiorly large patches of cartilage are mixed with the softer morbid deposit. The tumour and tunica vaginalis are closely adherent to the integuments of the scrotum.

From a man, aged 35. Two years before castration this testicle was observed to be larger than its fellow: a gleet of long standing was then present. The opposite testicle was not enlarged, but very tender, when this specimen was removed; four months later the disease returned, appearing in the inguinal glands. The further history of the case is unknown.

Presented by William S. Savory, Esq., 1876.

4227. A specimen, described as "scirrhus testis, or testis converted into cartilage." It is a thin section, which exactly resembles a section of a cartilaginous lobulated tumour, consisting of several small round portions of a firm, compact, transparent, opaline cartilage, which are united by thin partitions of fibro-cellular tissue.

From the Museum of Sir A. P. Cooper.

4228. Portion of a testicle, removed by operation. The natural structure of the organ is not discernible: in its place there is a large tumour, of rather soft texture, intersected by fibrous bands, and with numerous round and oval cysts scattered through it. Some of them are empty; many others contain minutely lobulated growths, which have arisen from parts of their walls and nearly fill their cavities. The tumour contains no cartilage.

The tumour may be described as an adeno-myxo-sarcoma; it resembles in microscopic structure the same disease in the mammary gland. Microscopic sections (examined in 1883) showed numerous slit-like and often branching tubules of gland-tissue lined with a single layer of short columnar epithelial cells. Solid rods of round nuclei were scattered in the stroma, and could be observed in different stages of development into gland-tubules. The cysts were evidently developed by dilatation of the slit-like gland-tubules, and they were also lined with a single layer of columnar epithelium. The stroma formed projections into the cysts in various degrees up to the formation of pedunculated intra-cystic growths, such as occur in similar tumours of the mamma. The greater part of the tumour was made up of loose fibrous tissue; but around the gland-tissue it formed a ring of mucous concentric tissue. No remains of the normal tubules of the testicle were observed. The intra-cystic growths were composed of tissue like that of the stroma of the tumour, and were lined with columnar epithelium.

The patient was 33 years old. The disease had long existed, and was believed to have originated in a blow; its growth was at last very rapid. There was no return of the disease after the operation.

From the Museum of Robert Liston, Esq.

4229. Section of "a diseased testicle," or, more probably, of a tumour which grew in a testicle. It consists of a mass of moderately firm substance, intersected by arching fibrous bands, and there projects at the front part of it a minutely lobulated growth, like a warty or "cauliflower" excrescence. There is an appearance of a similar growth occupying part of a cavity on the cut surface of the section, and of another projecting at the lower and back part of the mass. Altogether, the specimen has the appearance of a sero-cystic tumour.

Presented by Sir Everard Home.

4230. Section of a testicle with a fibrous or fibro-cellular tumour, containing numerous cysts, which are filled with soft, opaque, yellowish-white, homogeneous substance.

Presented by Sir W. Fergusson.

4231. A tumour of the testicle of an infant, aged 5 months. It is composed of a soft connective tissue enclosing numerous cysts filled with a glassy mucus, the larger of which are situated near the mediastinum.

In minute structure the tumour consists of a loose, mucous, and fibrous connective tissue, with stellate cells and fasciculi of spindle-cells. The stroma encloses large tubular and irregular cystic spaces lined with large spheroidal nucleated cells and many small ill-defined tubules or rods, lined or filled with similar cells. Transitions could be traced from the solid rods of cells to tubular and cystic spaces. Buds of epithelium also projected from the walls of the cyst-spaces.

Presented by Jonathan Hutchinson, Esq., 1882.

4232. Section of a large tumour which had grown in the situation of the left testicle of a man 70 years of age, from whom it was removed after death. The entire tumour, when recent, weighed twenty-three pounds, and measured thirty-three inches and a half in circumference. It is divided into two large lobes by a transverse constriction on the middle of the outer surface. The surface of the section presents, at first view, a uniform general appearance; but a closer examination will detect white, fibrous, curving lines, marking-off spheroidal or oval portions of the soft-looking, mottled, yellowish, fibro-cellular tissue of which the bulk of the growth is composed. This material can, in most cases, be readily turned out by the finger from the enclosing capsule, though in some parts it is more or less incorporated with the denser partitioning wall. Near the middle of the tumour are some irregular cavities, apparently cysts, flattened by the pressure of the adjoining growth.

Presented by John Maskew, Esq.

4233. A testicle, the gland-substance of which is replaced by a spherical tumour. The outer surface is regular, the vessels

of its coverings are much dilated, as shown by the artificial injection. Thin layers of organized clot lie in the cavity of the tunica vaginalis, which is in part obliterated. The tumour consists of medullary tissue, containing numerous cysts of various sizes: some are filled with blood-clot. Small nodules of cartilage are interspersed over the section.

Microscopically examined in 1883, the tumour, in parts, consisted entirely of round-celled sarcoma-tissue, intermixed in others with fasciculi of spindle-cells or fibrous tissue; in these portions, which comprised the greater part of the tumour, there were tubules of gland-tissue lined with columnar cells alone, or having several layers of round cells beneath them; some epidermic pearls existed.

From a man, aged 55. His general health was good; the testicle increased in size for ten months, first gradually, then rapidly. It was removed, and the cord secured by acupressure-pins. (See MS. Notes, vol. i. p. 200.)

Presented by Edward Cock, Esq., 1867.

4234. A testicle, injected and laid open; it is affected in a manner very similar to No. 4233, but no cartilage has been formed in the substance of the tumour.

From a man, aged 39. The testicle had been enlarging painlessly for eight months.

Presented by Edward Cock, Esq., 1866.

4235. Section of a tumour which had grown in the testicle of an Italian Greyhound. It is of oval form, and externally nodulated. The interior is divided by partitions of fibrous tissue into a number of spherical cysts or loculi, which are mostly filled with solid but soft-looking, white, apparently organized material.

The animal was 7 years old. The growth had been observed four years; it was removed by operation.

Presented by T. Blizard Curling, Esq.

4236. A right testicle, containing a single cyst, which appears to have sprung from the mediastinum; the normal glandular structure is expanded in a thin layer around it. In the

cavity of the cyst are soft masses adherent to the walls, and composed of tubules resembling tubuli seminiferi. Collections of large round cells were found in the deeper part of each mass. When recent, the cyst contained a chocolate-coloured fluid.

Microscopically examined, the tumour was believed to possess the characters of an adeno-sarcoma.

From a gentleman, aged 36, strumous in appearance; he had an indistinct recollection of having received a blow on the testicle about a year before the operation; this was followed by hydrocele and enlargement of the gland. The tunica vaginalis had been frequently tapped. (See Trans. Path. Soc. vol. xxix. p. 163.)

Presented by Jonathan Hutchinson, Esq., 1877.

4237. Section of a testicle, very much enlarged by the growth of an oval softish tumour, like those already described, except in that it is firmer, and that several small, oval, smooth-walled cavities, or cysts, are scattered through it. These lie especially in and near the fibro-cellular partitions, many of which are very thick and coarse.

Examined with the microscope in 1883, the tumour was composed of loose fibro-cellular tissue with round-cells interspersed. Some dilated tubules were scattered throughout it. There were a few small solid columns of spheroidal epithelial cells with an external layer of columnar cells; and elsewhere new formation of epithelial tissue could be distinctly observed.

"Tumour.

"*The Case of Mr. Anderson, January* 3, 1779.

"About three months ago he sent for me, and then complained of a most excruciating pain in his hip, which ran down the outside of the thigh and leg to the foot. Supposing it to be rheumatism, I ordered him James's powders, which he took for two or three days; but it did not relieve him. Then I ordered Dover's powders, but without effect; also the volatile tincture of guiacum, which also had no effect. He took occasionally opium to give him ease, especially at night; and the outside of the leg and thigh was rubbed with the volatile liniment and tinct. thebaic., which gave immediate [temporary] relief, but the pain soon returned, but was relieved by the application; however, the medicine soon lost its power altogether.

"Sir George Baker was called in, and it was still supposed to be the rheumatism. He took several other medicines, but nothing

gave him any relief. He had at times a slight suppression of urine; and often complained of the piles.

"He told me that, about a month or six weeks ago, he observed a hard swelling just on the outside of the ischium and under the posterior edge of the glutæus maximus; when I felt it, it appeared to be as large as a goose's egg. This swelling changed my idea of the disease, and I began to suspect a lumbar abscess, for there appeared to be no disease about the joint of the thigh, so as to make me suspect it to be a disease of this part. The swelling increased pretty fast, which puzzled me a good deal; for its increase was faster than what those kinds of suppurations usually are; I therefore thought of other causes. I once suspected, from the occasional strangury, that there might be some disease of the bladder, which had suppurated, and that some of the urine had made its way out and through the foramen magnum ischii; but from recollecting that urine stimulated the parts to inflammation, I immediately gave up that idea; and then became more puzzled than ever. The swelling became so large as to make a large rising on this part of the hip, and also was pushing forwards among the muscles of the thigh into the groin; and all the parts were extremely tense.

"For two or three nights he became delirious, but was pretty well in the day, which he imputed to the opium, and left it off for some evenings; but at last he became quite insensible, in a kind of stupor, extremely low, and with a cold clammy skin. He was now not expected to live many hours; however, the symptoms decreased and he became as before. I now thought no time was to be lost, for I suspected that this swelling was pressing upon the ischiatic nerve, and which was probably the cause of all the irritation and the pains, which never abated.

"I could plainly feel a fluctuation in the swelling, and thought it advisable to make an opening into it, not with a view to cure, but to relieve. On the most prominent part of the tumour, which was near the posterior edge of the glutæus maximus, I made an incision in the skin, about two inches long; and then another between the fibres of the muscles, about an inch in length. My reason for doing it in this part was to avoid the great nerve, in case it ran on the outside of the tumour. The opening in the muscle was just sufficient for me to introduce my finger into the tumour with ease. When I introduced my finger, I felt a curdly substance; I then bent my finger and brought a little of it out upon it, and it proved to be a coagulum of blood. This immediately informed me what the case was, and I desisted at this time from going any further, for fear that if I took off too much of the pressure the vessel might bleed still more freely; yet I did not choose to close up the opening, as no relief in such a case could be expected from the operation; therefore, I rather chose to allow the thinner part of the blood to escape, that the symptoms might be alleviated.

"The quantity which came away by this wound was but very trifling, although I introduced my finger occasionally to keep it

open. The pain continued still the same, and the tumour not increasing, I began to hope that the vessel was closing or closed; I therefore opened it more freely, and removed some of the coagula; and when I was doing this, I felt the ischiatic nerve passing round the tumour on its outside, so that it was upon the stretch. He became easier immediately, and had never any pain afterwards.

"When I moved my finger in the coagula, I felt a vast number of small bones everywhere in it. A good deal of coagula worked out at the opening, but nothing like fresh blood. He became weaker and weaker, and at last he died.

"*The appearance upon opening the Body of the above.*

"I first opened the abdomen, and also cut through the symphysis of the ossa pubis to give room. I found the bladder pushed forwards, and to the right side; and in the left side of the pelvis there was a round tumour, filling near one half of its cavity. I cut into this tumour, and found it consist of a pretty solid irregular substance, like a large swelled lymphatic gland. On separating this substance all round from its containing parts or cyst, I found it lead me through the foramen magnum ischii into the upper part of the thigh. I also found that not only the union between the pubis and ischium was gone, and a great many small irregular bones down in the thigh.

"I removed as much of this tumour as possible, and then turned to the posterior parts, where the tumour was first felt, made an incision into it, and found a large irregular cavity, filled with coagulated blood, with a great many small pieces of bone everywhere in it. I also found that not only the union between the ischium and pubis was destroyed, but that the ischium was also separated from the ilion; so that the knob of the ischium only remained, and was loose.

"My idea of the case was this: a lymphatic gland on the inside of the pelvis, close upon the inside of the obturator internus muscle, became diseased, or swelled, as is common for those glands to do; it pressed upon this muscle, as also the anterior and posterior branches of the ischium: all these parts, by this pressure, gave way, as is usual upon pressure; and perhaps when these two parts of this bone were nearly destroyed, that by some action, as by the flexors of the leg acting, either to flex the leg, or assisting to erect the body upon the thigh (because these muscles arise from it) that the ischium gave way at once; or, by sitting down on the knob of the ischium, and that this fracture of these parts might rupture or tear the obturator artery, or some of the gluteal, from whence the bleeding came; or perhaps a number of small ones.

"That this tumour was scrofulous is very probable; for, first, he had a scrofulous bubo some years ago, which was supposed to be venereal, but did not heal until all mercury &c. was left-off, and which remained long afterwards an indolent sore, as the scrofula generally does; secondly, the appearance of the tumour on the

inside of the pelvis had the look of a scrofulous glandular swelling; thirdly, there was the same in the liver; fourthly, one of the testicles was increased nearly to the size of a small child's head; and yet no lymphatic glands towards the source of the circulation were diseased, which would make us suspect that it was not cancerous.

"All the above-mentioned morbid appearances had the same diseased structure."—*Hunterian MS. Cases in Surgery*, p. 774.

Sections of the sciatic nerve of this patient are preserved in No. 3908, and a notice of their state is added to the description of No. 180, vol. i. p. 72.

4238. A half-section of a left testicle, enlarged to four inches in its vertical diameter; its outer surface is irregular, several large soft masses projecting from it. The whole of the tubular structure, the epididymis, and cord are infiltrated with a pale, homogeneous, sarcomatous substance.

Sections showed, under the microscope, seminal tubules, with their epithelium in a state of granular degeneration, separated by round and a few fusiform cells.

From a man aged 57. This testicle had been enlarged for eleven months, when its fellow, which had been increasing in size for fourteen months, was removed. It then grew very rapidly, and the cord, previously free from disease, became much thickened, so that it was removed three months after the right gland. The patient survived this second operation for about two years. (See the donor's work on 'Diseases of the Testis,' 4th edit. p. 354.) According to a report of a Committee of the Pathological Society the tumour was, in all probability, malignant, but differed in many respects from typical cancers. (See Trans. Path. Soc. vol. xvii. p. 182.)

Presented by T. Blizard Curling, Esq., 1866.

4239. A round-celled sarcoma of a retained testicle. The spermatic cord is thickened, and the epididymis is lost in the tumour, of which the section is pale and uniform.

From a carpenter, aged 40, whose left testicle was retained within the inguinal canal. Four months before removal (in October 1882) the testicle began to enlarge, and from that time steadily increased. It gave him great pain, and rendered movement of the left limb very painful and difficult. The testicle did not appear to be surrounded by a vaginal process of peritoneum. The enlargement of the testicle was not preceded by a blow; the organ had never been inflamed, and he had not suffered from either syphilis or gonorrhœa. The patient remained free from a return

of the disease until June 1884, when he was admitted to hospital with enlargement of the lumbar glands.

Presented by Frederick Treves, Esq., 1884.

4240. A testicle affected with soft sarcoma. It is enlarged to four inches in its vertical diameter. On the cut surface a line may be seen dividing the enlarged epididymis above from the testicle below. The section of the testicle is indistinctly marked-out in lobules by bands of fibrous tissue. The cord is extensively invaded by the disease.

From a soldier, aged 40, married, and the father of several children. He had contracted syphilis when young, his right testicle had remained in the inguinal canal till two years before death. Shortly after its descent the right testicle enlarged and became painful, after a long journey by rail. It got well, but enlarged once more after another railway-journey a few months later. The swelling and pain again subsided, but on renewing exercise the testicle enlarged permanently, and he died in about three months with extensive malignant disease of the lumbar glands. The cord, on microscopical examination, appeared invaded with typical round-celled sarcoma; much of the tumour-substance in the testicle was degenerating, in parts it was more fibrous than the cord, and resembled a lympho-sarcoma. (See MS. Notes, vol. i. pp. 341, 355.)

Presented by Dr. Habershon and John Birkett, Esq., 1871.

4241. Section of a firm medullary tumour, removed with the testicle in which it grew. The tumour has a somewhat oval form; its surface is slightly uneven; and in its interior it appears composed of several lobes or portions of various size and shape, closely compact. Its texture is uniformly firm, elastic, and compact; most of it is moderately vascular; the minute injection of its vessels has given it a pinkish hue, mottled with spots of red; in one small portion it appears much less vascular and firmer.

The patient died twelve months after the removal of the testicle, with a similar disease of the lumbar glands.

From the Museum of Sir A. P. Cooper.

4242. Section of a mass of medullary substance, from the testicle

of a child eight years old. It is of an oval form, measuring eight inches in length and four inches in its transverse diameter. It appears composed of several distinct, but closely connected, oval and round masses; its texture is nearly uniform, pale, and rather compact, but with a few soft shreddy portions here and there. Anteriorly it protrudes through a large ulcerated opening in the scrotum, and its surface here exposed appears more vascular than its substance. *From the Museum of Sir A. P. Cooper.*

4243. Section of a testicle, of which the blood-vessels have been injected. Its natural structure is not discernible; in its place there is a soft, but close-textured, medullary tumour; it is arranged in several round and oval masses, with fibro-cellular partitions, and hangs in fine short flocculi on some parts of the surface of the section. The tunica albuginea is slightly thickened.

From a man 29 years old, who died with some internal disease eighteen months after the removal of the testicle.

From the Museum of Robert Liston, Esq.

4244. Section of a testicle, removed by operation. It is enlarged, but has not changed its shape. "Its natural structure is in a great measure obliterated, probably absorbed, and appears to be exchanged for an almost entirely new substance. The arteries were enlarged, and the veins become a little varicose" (*Hunterian MS. Catalogue*). In its general character the morbid substance is like that last described; but it is firmer and more compact. Both sets of vessels are injected. The veins are large and varicose.

4245. An injected preparation of an enlarged testicle, the secreting structure of which is almost entirely replaced by a large, soft medullary tumour. The outer surface is smooth and slightly tuberculated; there are enlarged vessels in the tunica albuginea. The cut surface of the tumour is homogeneous, and shows small points where its substance has

broken-down ; it contains very few vessels, except at certain points.

From a man aged 26. The testicle gradually increased in size for thirteen months ; then it grew rapidly for four months and was removed. Within three months a small lump appeared on the seat of the excised gland, and this and the succeeding specimen were also removed. (See MS. Notes, vol. i. p. 112.)

Presented by Edward Cock, Esq., 1867.

4245 A. A portion of the second tumour. It is flocculent in appearance and contains numerous cysts.

Presented by Edward Cock, Esq., 1868.

4246. A testicle, in which none of the natural glandular structure can be discerned, its place being occupied by an oval mass of soft, brain-like, medullary substance, four inches in its chief diameter. The morbid mass is not apparently divided into lobes. It is in some places broken and rather flocculent, as if after softening of its texture ; and in some parts blood is effused into it in blotches, which still, after maceration, retain a darker colour than the rest.

From the Museum of R. B. Walker, Esq.

4247. Section of a testicle affected with hard or scirrhous cancer. The tumour is white, dense, of fibrous aspect, and infiltrates uniformly the testicle and epididymis. The spermatic cord is thickened, and the tunica vaginalis is adherent to the testicle.

The microscopic structure of the tumour was that of a scirrhous cancer.

From a man, aged 54, who had noticed an enlargement of the gland for one year.

Presented by Jonathan Macready, Esq., 1884.

4248. Section of a greatly enlarged testicle. Its natural structure is not discernible. The tunica albuginea is filled with an oval mass of soft medullary substance, nearly six inches in its greatest diameter. The whole mass appears composed of several round and oval portions, from a quarter of an inch to nearly two inches in diameter, each invested

with a layer of fibro-cellular tissue, like a capsule enclosing it; and these layers, or capsules, on the surface of the section, look like undulating or circling bundles of fibres partitioning the great mass into smaller ones, or distinct lobules. The consistence of the medullary substance forming these lobules is generally soft; in some its texture is close, and its cut surface smooth; in others, flocculent and shreddy. In some parts the medullary substance does not completely fill the spaces or cavities formed by the fibro-cellular partitions. The tunica albuginea is from one to two lines in thickness, and coarsely laminated; the cavity of the tunica vaginalis is obliterated, except at its upper part. The vessels in the spermatic cord are enlarged; but the medullary disease is confined to the body of the testicle.

Microscopically examined in 1883, the soft parts of the tumour consist of masses of nucleated cells, closely aggregated; the firmer parts of fibrous tissue.

From a man 40 years old, in whom the testicle increased in size for between two and three years, but did not excite much pain. Three years after its removal he was in good health.

From the Museum of Robert Liston, Esq.

4249. A section of a medullary cancer of the right testicle. The outer surface is somewhat tuberculated, the interior is a mass of yellowish, homogeneous, granular material, separated into distinct lobes by bands of fibres; in one of these lobes the tumour-substance is darker than in the others.

From a married man, aged 39, with three children. The testicle had been rather small till four years before removal, when it enlarged without any apparent cause, traumatic or constitutional. He recovered from the operation, but nothing further is recorded of the case. Microscopically the growth consisted of large epithelial cells, some with single oval nuclei, some polynucleated, lying in a granular matrix. (See MS. Notes, vol. i. p. 29.)

Presented by Alfred Poland, Esq., 1864.

4250. Section of a large tumour of a testicle, composed apparently of a medullary substance, in parts of which there are groups of small cells. The whole mass has an irregularly oval form; it is composed of several round portions united

by thick and close-set partitions of fibro-cellular tissue; some of its component portions are soft and flocculent. The injection of the blood-vessels proves that the mass has in many parts considerable vascularity. The arrangement of the partitions has given it an aspect almost like that of spleen or coarse erectile tissue.

The patient was a young man who was accidentally shot with small shot in the scrotum. A few shots entered the testicle. From the time of this injury the testicle enlarged. At the end of some months it was removed. The spermatic veins were found full of cells like those composing the chief mass of the tumour. The patient died six weeks after the operation with disease in the lumbar glands, like that shown in the testicle, and peritonitis.

Presented by George J. Guthrie, Esq.

4251. A testicle affected with medullary or soft cancer. It is more than double its normal size, and is uniformly distended by a soft growth, the section of which shows numerous minute cysts and a few small spots of extravasated blood. The growth has distended, but not invaded the tunica vaginalis. The outer surface of the testicle is tolerably regular.

From a child thirteen months old. The disease appeared soon after birth, and was tapped as a hydrocele. The child was quite well when seen two months after its removal.

Presented by Sir W. Fergusson, 1871.

4252. A section of a testicle from a child two years old, presenting the ordinary characters of soft cancer. When fresh it presented "a uniform, faintly fibrillated, pinkish appearance, mottled and streaked with tawny and dull yellow tints where degeneration was taking place. No trace of tubular structure could be found anywhere, and the epididymis was completely blended by infiltration with the body of the testis."

On microscopical examination the tumour appeared as a fibrous stroma with round and oval cells, containing large nuclei, in its alveolar spaces.

When removed the tumour had been three months in progress; the scrotum was unaffected. For an account of the case, with drawings of the microscopical appearances, see Trans. Path. Soc.

vol. xxvi. p. 138, and plate viii. figs. 2 and 3. The child died, about a year after the operation, with cancer of the spine and internal organs, but without local recurrence.

Presented by Howard Marsh, Esq., 1875.

4253. Section of a large medullary growth in a testicle. It is composed of numerous distinct round portions, separated by partitions of connective tissue. Its vessels are minutely injected, and it appears to have been in many parts very vascular. The lower portions of it are soft and flocculent. *From the Museum of Sir A. P. Cooper.*

4254. Section of a growth within a testicle, larger, still softer, and more vascular than the preceding. The whole mass has a regular oval form ; it measures six inches in length, and four inches in its antero-posterior diameter. The same disease has extended for several inches up the spermatic cord. *From the Museum of Sir A. P. Cooper.*

4255. A testicle, described as a "pulpy testicle." The tunica albuginea is distended by a soft substance, as in the foregoing specimens, which hangs on the surface of the section in fine long branching flocculi. The colour has been wholly removed by maceration.

Presented by Sir Everard Home.

4256. A similar specimen, with the blood-vessels injected. The tunica albuginea, distended by the tumour, has an uneven nodulated surface, and is slightly thickened. The epididymis does not appear to have participated in the disease.

4257. A testicle, with its coverings, and a part of the scrotum, removed by operation. The natural structure of the testicle is not discernible ; its place is occupied by a spheroidal mass, which measures upwards of five inches in its greater diameter, and is composed of a soft, pulpy, and flocculent medullary substance. The tunica vaginalis is thickened,

and the upper part of its cavity was distended with fluid: the rest is obliterated by adhesion.

The patient was 35 years old, and had first observed an enlargement of the testicle twenty months before the operation. It grew rapidly, but was not painful till within the last six months. After removal the whole mass weighed three pounds. The morbid substance was of a reddish-brown colour, and the tunica vaginalis contained six ounces of straw-coloured albuminous fluid. The patient recovered after the operation.

From the Museum of John Taunton, Esq.

4258. A testicle, in which a very large medullary tumour has grown. The tumour is of various consistence, but bears a close general resemblance to all the preceding medullary tumours; parts of it appear to have had blood effused in them. At the upper part it has in two situations protruded through the distended and ulcerated tunica albuginea, and has spread widely over its outer surface, growing within the cavity of the tunica vaginalis, but not breaking through it. The outer layer of the tunica vaginalis is thickened and indurated; a part of its inner surface is adherent to the diseased mass which has protruded through the tunica albuginea; and on another part, where it was distended high above the testicle, a large mass of soft and broken medullary substance is attached to it.

From the Museum of Sir A. P. Cooper.

4259. A testicle, removed by operation. The tunica vaginalis and tunica albuginea are remarkably thickened and indurated, and, except at the anterior part, are united in one firm layer. The whole of the natural structure of the testicle has disappeared, and is replaced by a large mass of medullary substance, divided by firm and thick fibrous partitions. *Presented by Sir William Blizard.*

4260. "A beginning cancer of the testicle, where the tubular substance is become indistinct by adhesion" (*Hunterian MS. Catalogue*).

4261. Two large portions of bone-like substance, of light and delicately-filamentous texture, composed of granules of earthy matter imbedded in animal tissue, which were enclosed within a tumour connected with a testicle. They resemble portions of a light and fibrous-looking osteoid tumour.

The following is part of the history sent with the specimen :—

"W. W., aged 72, applied on account of a prodigious swelling in the scrotum, which appeared to be one or both testicles in an enlarged and indurated state. The tumour had begun about six or seven years before, and, as he thought, about the upper part of the testicle, and had gradually increased to its present size. It was of an incompressible hardness. Of the penis, the only appearance was a small concavity, like a navel, nearly in the middle and upper part of the tumour. The circumference of the tumour at its root, or neck, measured fifteen inches. The patient was obliged to keep it suspended with straps over his shoulders, and could not, without pain, bear it hanging down for any length of time. The other testicle could not be felt. The patient was stout for his age, and otherwise healthy, but had passed many nights without sleep before the operation of the removal of the diseased testicle was performed.....He was well in the course of three weeks.

"About two years afterwards he applied again on account of a tumour about the size of a hen's egg, on the upper part of the cicatrix of the former wound. This also was removed and healed; and he continued pretty well for two or three years, when he was seized with a violent cough, of which he died.

"On making an incision into the tumour the scalpel struck on a hard body about four inches long, two and a half broad, and about half an inch thick; which, when taken out and macerated in water, was evidently a deposition of bony substance. At the upper part of the lump one of the testicles was found in a flattened state, pale and flaccid, and bedded in the tumour. The appearance of the tumour throughout was exactly like that of scirrhi of the breast, when they are taken out before ulceration takes place. .....The spermatic cords appeared pretty sound and free from knots."

4261 A. Section of a testicle of a Ram, which is enlarged and converted into a mass of granular calcareous matter.

Presented by Dr. Edwards Crisp.

Diseases of the Epididymis.

Effects of Inflammation: 4262 to 4268.
Enlargement and Induration: 4262.
Abscess: 4263 to 4265.
Calcareous deposits: 4266 to 4268, 4271.
Tuberculous Disease: 4269 to 4271.
Cysts and Morbid Growths, &c.:—
Hydatid of Morgagni: 4272 to 4274.
Cartilaginous bodies attached to: 4275 to 4277.
Cysts of head of Epididymis, Encysted Hydrocele of Testicle: 4278 to 4284.
Spermatocele, Seminal Cyst: 4283, 4284.
Other Cysts: 4285.
Morbid Growths: 4286 to 4288.
Myxoma: 4286.
Sarcoma: 4287?
Epithelioma: 4288.

Effects of Inflammation.

4262. Section of a testicle, of which the epididymis is enlarged and indurated. *Hunterian.*

4263. A testicle, which was extirpated because it had been for many years the seat of the most severe pain. There is not now any discernible change in its structure.

When first examined a small quantity of pus was found in the epididymis.

Presented by Sir William Blizard.

4264. A testicle laid open, showing two abscess-cavities in the epididymis. The cut surface of the body of the testicle appears normal.

From a man of about 48 years, who died of hæmatemesis from a gastric ulcer, when also suffering from cystitis, dependent upon retention of urine. The kidneys were extensively affected with chronic interstitial nephritis, the bladder was sacculated, hypertrophied, and not much contracted; its mucous membrane was sloughing at several points. The opposite testicle was in the same condition as this specimen.

Presented by Dr. Goodhart, 1873.

4265. A testicle, exhibiting a considerable enlargement, with induration of the lower half of the epididymis, in the middle of which there is a small abscess, with irregular, firm, pale, and defined walls. The testicle is of ordinary size. The surface of the tunica vaginalis testis has numerous films of false membrane attached to it. The abscess has not the appearance of a tuberculous cavity.

4266. A testicle, dried after the injection of its vessels, with a mass of osseous or earthy substance in the upper part of the epididymis.

4267. A similar specimen. In both of these, as well as in the following, the disease is probably the result of the calcification of an inflammatory product, which, as it became organized, had produced the same kind of enlargement and induration of the epididymis as is shown in No. 4262.

4268. A tunica albuginea testis, with the vas deferens injected and dried. The progress of the mercury, with which the vas deferens was injected, has been arrested in the lower part of the epididymis by a mass of earthy substance deposited apparently within the canal, and completely obstructing it.

Tuberculous Disease.

4269. Section of a testicle, exhibiting in the epididymis two cavities like those of abscesses, with well-defined walls, and partially filled with a soft, pale yellow, apparently tuberculous substance. The tissue around them appears healthy.

4270. Section of a testicle, with a portion of the posterior part of the scrotum. Immediately behind, or within, the middle and lower part of the epididymis, there is a mass of yellow substance, apparently firm tuberculous matter, with a small irregular cavity in its centre, from which a narrow fistu-

lous passage, marked by a bristle, passes through the scrotum. The surfaces of the tunica vaginalis are adherent.

4271. A testicle, in which the interior of the epididymis is full of a soft mortar-like substance, formed probably by the accumulation of earthy matter in tuberculous deposits. The body of the testicle is enlarged, but natural in its form. Its interior contains neither tuberculous matter nor any like that in the epididymis.

This and the six preceding specimens are from the Museum of Sir A. P. Cooper.

Cysts and Morbid Growths.

4272. A testicle, with two small pyriform cysts, attached by short narrow pedicles to the upper part of the epididymis.

Hunterian.

4273. The upper part of an epididymis, to which are attached two small slenderly pedunculated cysts, with thin membranous walls, and containing pellucid fluid.

From the Museum of Sir A. P. Cooper.

4274. A testicle, with several large cysts attached near the head of the epididymis. Both layers of the tunica vaginalis are thickened; its cavity appears to have been the seat of hydrocele. The small pyriform cyst, situated upon the surface of the larger one, probably represents that known as the hydatid of Morgagni. Within the larger cyst is a partition separating it into two unequal portions in such a manner as might have been produced by the unequal dilatation of a convoluted tube. *Hunterian.*

4275. The upper half of a testicle, much enlarged, consolidated, and having several small irregularly-shaped cartilaginous bodies, attached by slender pedicles to the upper part of

the epididymis. The tunica albuginea is thickened, and there are numerous minute cartilaginous and bone-like bodies upon its surface.

The specimen is figured in Sir A. Cooper's 'Observations,' pt. ii. pl. xiii. fig. 1.

4276. A testicle, with a small round body composed of a substance like cartilage, attached by a very slender pedicle to the upper and anterior part of the epididymis.

This appears to be the preparation figured in Sir A. Cooper's 'Observations on the Structure and Diseases of the Testis,' pt. ii. pl. xiii. fig. 2.

4277. A testicle, with partial adhesion of the opposite surfaces of the tunica vaginalis. A small flat mass of substance like cartilage, which lay loose in the remaining part of the cavity of the tunica vaginalis, is suspended on the testicle. It closely resembles the growths shown in the preceding preparations, and like them was, probably, once attached by a pedicle, which gradually wasted or was broken.

From the Museum of Sir A. P. Cooper.

4278. The upper half of a testicle, with several small cysts in the epididymis. They are seen through its transparent covering, and one is attached to it by a slender pedicle.

Hunterian.

4279. A section of an epididymis, and the upper part of a testicle. In the upper part of the epididymis, and projecting from its surface, is a thinly walled membranous cyst, of an oval form and about half an inch in diameter. It appears to have been partly filled with a thick pale substance.

From the Museum of Sir A. P. Cooper.

4280. A section of a right testicle. The glandular substance of its body appears normal. The epididymis is in great part replaced by several large cysts. Those above are thin-walled, and contained clear non-albuminous fluid; the largest, which measures three inches in its longest diameter, contained pure pus.

From a gentleman aged 74. He had an old hydrocele of the opposite testicle, which was frequently tapped. Six months before operation a fluctuating swelling of the right testicle was observed, and its surface, at first smooth, began to feel irregular. There was an old scrotal hernia on this side. The patient suffered such pain that the swollen testicle was removed at his urgent request.

Presented by John Birkett, Esq., 1877.

4281. The other half of the same testicle.

4282. A testicle, with a large cyst immediately above it. After the minute injection of the blood-vessels, and the injection of the vas deferens with mercury, the interior of the testicle has been removed, and its membranes, with those of the cyst, have been distended and dried. The cyst is globular, and between four and five inches in diameter; its walls are thin, and appear very vascular; the vessels of the spermatic cord pass over its posterior wall, and are separated from each other. *From the Museum of Sir A. P. Cooper.*

4283. A testicle, with a large cyst attached to the head of the epididymis.

This specimen is figured in Mr. Curling's 'Practical Treatise on Diseases of the Testis,' 2nd edit. (1856), p. 140, from which work the following description and remarks are extracted:—"A man, aged 53, died in the London Hospital in July 1854. His testicles, being enlarged, were removed. On laying open the tunica vaginalis, I found a cyst containing about four drachms of milky fluid attached to the head of the epididymis in both testicles. At my request, Mr. Quekett inserted a tube into the vas deferens, and injected the glands with mercury. The metal passed into the epididymis, and escaped freely into the cyst attached to it in both organs. The ducts of the epididymis, loaded with mercury, were found ramifying over the walls of the cyst, having been drawn out and expanded by the growth of the hydrocele. On examination of the interior of the cyst, the open mouth of the duct from which the mercury had escaped was distinctly visible. There was an oval opening in the membrane of the cyst, the edges of which were even and rounded; and at a point in the centre of this opening, globules were seen escaping from a minute aperture in one of the ducts. The open mouth of the duct, into which a bristle has been passed, may be distinctly seen in the preparation.

"The examination of these two testicles affords the true solution

of the difficulty which has hitherto existed in satisfactorily accounting for the presence of spermatozoa in encysted hydroceles. It appears that as the hydrocele increases in size, the delicate tubes are drawn out and extended over the cyst, a position in which they are peculiarly exposed to accidental rupture. That the opening was of old standing, and not produced by the pressure of the column of mercury, is shown by the character of the aperture.

Presented by T. Blizard Curling, Esq.

4284. A small quantity of slightly-opaque whitish fluid, marked "From a hydrocele, not serous." It contains numerous spermatozoa, and was probably removed from a cyst of the epididymis. *From the Museum of Sir A. P. Cooper.*

4285. A testicle, with a large multilocular cyst, with very thin walls, attached near the epididymis, in the position where the organ of Giraldes or remains of the Wolffian body is found. The loculi are separated from each other by thin partitions, and have no definite arrangement. They contained a transparent watery fluid, in which no spermatozoa could be found, but a few exudation-cells.

During life the cyst appeared as a soft fluctuating tumour above, but partially obscuring, the testicle. It was partly within the tunica vaginalis.

Presented by Frederic S. Eve, Esq., 1882.

4286. A testicle shown in section, with a large, vascular, degenerating tumour growing above it. The body of the testicle may be seen, quite unaltered, at the lower part; the vas deferens can be traced into the tumour, which appears to have originated in the epididymis. Microscopical examination proved the growth to be myxomatous.

From a married man, without family, aged 45. The tumour was removed three months after it was first observed. The patient was well four years after the operation. (See MS. Notes, vol. ii. p. 34.)

Presented by John Gay, Esq., 1873.

4287. Section of a testicle and of a medullary tumour, four inches in diameter, which appears to have formed in the

epididymis alone; for the body of the testicle (at the lower and left hand part of the preparation) is healthy, and is separated from the tumour by its tunica albuginea.

From the Museum of Sir A. P. Cooper.

4288. A testicle, with the lower part of the epididymis much enlarged and infiltrated with epithelioma.

Presented by Richard Partridge, Esq., 1878.

Injuries and Diseases of the Spermatic Cord.

Injuries: 4289.
Cysts and Morbid Growths: 4290 to 4298.
Hydrocele: 4290, 4291?
Hæmatocele: 4292.
Morbid Growths: 4293 to 4295.
Fatty Tumour: 4293.
Varicocele: 4296 to 4298.

Injuries.

4289. The testicles, spermatic cords, and neck of the bladder of the Dog referred to in the following passage from Sir A. Cooper's 'Observations on the Structure and Diseases of the Testis,' London, 1830, p. 51 :—

"In 1823 I made the following experiment upon a dog. I divided the vas deferens upon one side, and the spermatic artery and vein on the other. The testis, upon that side on which the artery and vein were divided, gangrened and sloughed away. The testis on the side upon which the duct was divided became somewhat larger than natural. I kept the dog for six years; during that time he was twice seen *in coitu*, but the female did not produce. This was in 1827. In 1829 I killed him, and found the vas deferens below the division excessively enlarged and full of semen, and entirely stopped, with some separation of its extremities; but it was open from the place of division to the urethra." The places of division are marked with a wire. The preparation is figured in Sir A. Cooper's work, pt. i. pl. x. fig. 3.

From the Museum of Sir A. P. Cooper.

Cysts and Morbid Growths.

4290. A testicle, with part of the spermatic cord, of a boy. There is a cyst, or "encysted hydrocele," of the cord, rather more than an inch in length, and about half an inch from the epididymis. It is formed of a membrane which is smooth and polished internally, and externally is closely connected with the other tissues of the cord, though separable from them. Its origin may probably be referred to a dilatation of an unobliterated portion of the funicular part of the vaginal process of peritoneum. *Hunterian.*

4291. A testicle, to the posterior part of which, but external to the tunica vaginalis, a large cyst, which contained a serous fluid, is attached. The cyst has thick and tough walls, and a smooth, polished, internal surface, beneath which there are some small plates of calcareous matter. At its anterior part there is an oval aperture, by which it communicates with a smaller cavity, imbedded in the lower part of the spermatic cord just above the upper end of the epididymis. The testicle is healthy; the tunica vaginalis is thickened, and at the upper part its opposite surfaces are adherent.

Hunterian.

"Another collection, we are told, takes place in the cellular membrane of the tunica vaginalis of the cord. A hydatid may form anywhere on the outer part of the testicle, or on the body of the testicle (of these I have seen several), and may be joined with the true hydrocele, as in this preparation, where one hydrocele formed on the tunica vaginalis testis, which was also distended with water; and hence two distinct cavities of water, one behind the other."—*Parkinson's Hunterian Reminiscences*, p. 91.

4292. A testicle, with the spermatic cord, and other adjacent parts. At the upper part of the preparation is the sac of an inguinal hernia; below a hydrocele of the tunica vaginalis. Between them, and partly in front of the hernial sac, is a cyst within the spermatic cord. Its walls are thick, tough, and laminated; its cavity is oval, measuring about two inches in length, and an inch and a half in breadth, and is filled with a soft, grumous, yellowish sub-

stance, like half-decolorized coagulated blood. The interior of the cyst has the same colour as its contents. *Hunterian.*

4293. A testicle, with its spermatic cord. About an inch above the testicle a fatty tumour is imbedded in the tissues of the spermatic cord, and loosely connected with them. Its shape is oval, elongated from above downwards, and rather narrower above than below: it measures nearly four inches in length, and consists of numerous lobes of soft fat, closely held together with thin fibro-cellular partitions.

From the Museum of Sir A. P. Cooper.

4294. A large mass of soft and appparently very vascular medullary substance, formed within or adjacent to a spermatic cord. The mass has an oval form, and is nearly six inches long. Its section shows that, like the common medullary tumours of the testicle, it is composed of several variously-sized round portions united by fibro-cellular tissue, which appears on the cut surfaces like fibrous wavy partitions. The vessels composing the spermatic cord have been widely separated by the growth of the tumour; the veins are much enlarged. The testicle appears healthy.

From the Museum of Sir A. P. Cooper.

4295. A testicle, with its spermatic cord, sections of five lumbar lymphatic glands, and a portion of omentum, from the same person. The testicle is healthy; but in the whole course of the spermatic cord there are medullary tumours, from one to three inches in diameter. Two of them, softened and broken in their texture, are laid open. The lumbar glands are affected with the same disease in various stages; and the omentum is thickly beset with similar tumours.

Mr. Hunter marked these, as he did other examples of medullary cancer, as "a disease differing from scrofula and cancer" (see vol. i. p. 119), and has recorded the following account of the case and the preparation:—

"*Case of Cancer of the Spermatic Cord.*

"A gardener, between 40 and 50 years of age, who had been a good deal addicted to drinking, two years before his death was

attacked with a disease in the left spermatic cord, which enlarged the cord, and extended up into the abdomen. Upon examination the testicle did not appear diseased; and the tumour above it resembled much the sac of an old irreducible hernia.

"No means that were made use of were of the least service, and the patient died in the period of two years from the commencement; more from the disease in the abdomen than of the cord.

"Upon opening the body the epiploon was found everywhere full of tumours of different sizes; from that of a pea to that of a common fist. Similar tumours were found in the loins on both sides, and extending down along the spermatic cord of the left side, as low as the testicle itself; but the testicle was perfectly distinct from this mass, and unaffected by disease.

"These tumours, when cut into, had very different appearances, according to the progress of the disease in them: the small ones were solid, and consisted of an uniform white substance; but when larger, there were red spots in different parts of the tumour; a little further advanced, one part was red and loose in its texture, as if made up of a fine loose fringe, and the rest solid: others, indeed, were pulpy, the whole tumour being soft, and containing a bloody fluid, with a loose fibrous part floating in it."—*Hunterian MS. Cases and Dissections*, No. 69.

4296. A spermatic cord and testicle. The spermatic veins are enlarged and unusually tortuous. The testicle appears to have been of ordinary size, but has been emptied and dried.

From the Museum of Sir A. P. Cooper.

4297. A large mass of injected and dried spermatic vessels, probably from a testicle in which there was some great tumour. The arteries, injected with red wax, are dilated and tortuous; the veins, injected with yellow wax, are much more so, and form a large confused cluster of vessels.

From the Museum of Sir A. P. Cooper.

4298. A left testicle injected, showing extensive tubercular disease of its body; only slight remains of its tubular structure remain. The veins of the spermatic cord are largely varicose.

Removed by operation from a gentleman aged 27.

Presented by T. Blizard Curling, Esq., 1866.

The chief specimens of Diseases of the Testicle, of its Coverings, and of the Spermatic Cord may be found by reference to the Series of General Pathology, of Hernia, and of Diseases of the Veins.

Series XLIX. INJURIES AND DISEASES OF THE SCROTUM.

Hæmatocele: 4299, 4300.
Elephantiasis Arabum and "Lymph-scrotum": 4301 to 4304.
Morbid Growths: 4305 to 4308.
Fatty Tumour: 4305.
Epithelioma: 4307, 4308.

4299. A hæmatocele in the cellular tissue of the scrotum. Two large cysts, extending upwards around the spermatic cord, occupy the front and back surfaces of the preparation; they are distinct, except at their upper part, where they communicate by a small opening, and their walls are covered with coloured blood-clot. The testicle, exposed by an incision, lies below the cysts; its substance is healthy, but the cavity of the tunica vaginalis is obliterated by adhesion of its surfaces, except above the testicle, where a small cavity exists, which could not be ascertained to communicate with the cysts, and did not contain blood-clot. By dissection it was distinctly ascertained that the walls of the cysts were formed by the layers of connective tissue of the scrotum.

The specimen was removed from a man aged 57 years. Sixteen years before the operation the left side of his scrotum became swollen after the kick of a horse; the swelling subsided under treatment. Three years later he again injured his scrotum, and since then it had gradually enlarged. Two months before he came under observation he received a blow from a piece of timber. The scrotum was greatly enlarged, opaque, and fluctuating; it was tapped, and 60 oz. of fluid resembling chocolate were removed, the swelling still remaining half the original size. Complete removal of the mass with the testicle was then performed. (See MS. Notes, vol. iii. p. 200.)

Presented by Walter Rivington, Esq., 1882.

4300. A testicle, incised, with part of the scrotum. A cavity is exposed to view, containing a large fibrinous mass. It was distended with liquid blood and pus. It is entirely external to the tunica vaginalis, which is seen on the left of the preparation, with a shaggy surface separated from the extravasated blood by a very thick fibrous wall.

From a Spaniard, over 50 years of age. He had for many years worn a truss for a large reducible inguinal hernia on the left side. A small lump formed in the left testicle and gradually increased; it was therefore removed eleven months after it was first observed. (See Trans. Path. Soc. vol. xxii. p. 184.)

Presented by Richard Quain, Esq., 1870.

4301. An enormous enlargement of the scrotum, and of the integuments of the penis and prepuce, removed by operation. The mass before its removal measured forty-two inches in circumference, and forty inches from the verge of the anus to the pubes; after removal it weighed forty-four pounds and a half, of sixteen ounces each. The parts removed have a nearly globular form. Everywhere, except at the base of attachment, which was cleanly and smoothly cut across, they are covered with skin, which at the lower parts has a warty, knotted surface, but elsewhere does not differ from ordinary coarse skin, with large orifices of hair-follicles. The part of the diseased structure which has been exposed is pale, dense, and tough, like the compact external layers of skin; in the recent state it is said to have "closely resembled the structure of the mammary gland." The penis and testicles are closely enveloped in its anterior part; the former is exposed by an incision, which is carried on to the urethra; and the frænum of the prepuce is shown greatly enlarged, and attaching the penis to a large spheroidal warty growth at the lower part of the tumour. The spermatic cords have been drawn out from the surface of the section by which the parts were removed.

The patient was 22 years old. The enlargement had been increasing for twelve years. He recovered rapidly and completely after the removal of the parts.

From the Museum of Robert Liston, Esq.

4302. A similar specimen, but with much less enlargement of the diseased parts. In front an incision has been made through the prepuce and the integuments of the penis, which are from half to three quarters of an inch in thickness. The glans penis is thus exposed, and appears quite healthy. The enlarged scrotum forms a lobed and knotted mass, from four to six inches in diameter, with its cutaneous surface deeply wrinkled and warty. The texture of all the enlarged parts is the same as in the last-described specimen: tough, compact, elastic, pale, like very close fibro-cellular tissue, or the compact external layers of healthy skin.

Presented by Sir William Blizard.

4303. A portion of a scrotum affected with elephantiasis Arabum, from a native of India.

Presented by John Wiblin, Esq., 1865.

4304. A portion of a "lymph-scrotum;" its corium and subcutaneous tissue are very thick, its epidermis deeply corrugated.

From a Hindoo beggar, aged 25. The scrotum enlarged three years before removal, during which time he had irregular attacks of fever once or twice a month. During these attacks milky or sero-sanguinolent fluid discharged from its surface, and the patient frequently relieved himself by pinching-off a piece of distended integument and facilitating the escape of fluid by pressure. On microscopical examination an exceedingly large development of lymphoid tissue was found in the subcutaneous tissue and in the hypertrophied sebaceous glands. For a full account of the case with a report of the microscopic appearances, see paper on 'Elephantiasis Arabum,' by the donor and Mr. D'Arcy Power (Trans. Path. Soc. vol. xxx. p. 488.)

Presented by Sir Joseph Fayrer.

4305. A large and lobulated mass of fat, removed from a scrotum. It weighed eleven ounces.

Presented by John Birkett, Esq., 1870.

4306. A penis and scrotum, almost completely enveloped in great sloughing and flocculent medullary tumours. The tumours appear to have originated in the scrotum, and thence to have

burst out in several different places through the skin. The left testicle has been cut through; it is completely and closely surrounded by the morbid structure, but is itself quite healthy. The other testicle was not found, and probably was involved in the disease, if not its primary seat.

From the Museum of John Heaviside, Esq.

4307. Portion of a scrotum, in which there is an oval, elevated, warty ulcer, from "chimney-sweeper's cancer," and at the margin of the ulcer a conical horn-like growth, three quarters of an inch in length.

The preparation is described and figured in Mr. Curling's 'Treatise on the Diseases of the Testicle,' 4th edit. p. 632.

Presented by Thomas Blizard Curling, Esq.

4308. The lower part of a scrotum, with the testicles. A deep irregular ulcer, with hard, sinuous, elevated, overhanging, and everted edges, has destroyed a large portion of the skin and the subjacent tissues of the lower part of the scrotum. It was probably a "chimney-sweeper's cancer."

Specimens of Diseases of the Scrotum in other parts of the Museum may be found by reference to the Series of Diseases of the Skin.

Series L. DISEASES OF THE VESICULÆ SEMINALES.

4309. The bladder, the vesiculæ seminales, prostate, and Cowper's glands of a Lemur. One of the vesiculæ is enlarged.
Hunterian.

4310. Part of an urinary bladder, with the vesiculæ seminales, prostate gland, and commencement of the urethra. The left vesicula seminalis is enlarged; its walls are thickened and indurated, and its cavity is nearly filled with tuberculous matter. The prostate gland is, in two places, deeply ulcerated, and at one of these the ulceration has spread into the vesiculæ seminales. There are also several small superficial oval ulcers by the side of the caput gallinaginis, and in the neck of the bladder.
From the Museum of John Howship, Esq.

Series LI. INJURIES AND DISEASES OF THE PROSTATE GLAND.

Enlargement, Hypertrophy: 4311 to 4355.
Uniform Enlargement: 4311 to 4315.
Affecting especially the lateral lobes: 4316 to 4324.
Affecting especially the middle lobe: 4325 to 4338.
Affecting especially the anterior and middle parts: 4339 to 4341.
Enlargement, with peculiar deformities: 4340 to 4346.
Enlarged Prostate Glands, pierced or wounded with instruments: 4347 to 4355.
Abscess or Ulceration: 4356 to 4358.
Morbid Growths: 4359 to 4360.
Calculi in the Ducts: 4361 to 4369.

Enlargement.

Uniform Enlargement.

4311. Part of a bladder, with an enlarged prostate gland. The degree of enlargement is slight, but nearly uniform, affecting equally both the lateral and middle lobes or portions of the gland. The middle lobe is exposed by dissection from behind; and it forms a slight swelling in the neck of the bladder, oval, and elongated from before backwards. The section of the anterior and middle portion of the gland shows that this also is much increased in thickness. Bristles are placed in the ureters and ejaculatory ducts. *Hunterian.*

4312. A nearly similar specimen; but the enlargement is somewhat greater, and the middle lobe forms a broad, transversely oval, convex elevation, which has a slight depression in the middle, so that it appears bilobed. The flattening and pressing together of the sides of the urethra, and the increase of its depth or antero-posterior diameter, are well marked. The left ureter is obstructed near its termination

in the bladder by a small calculus. The bladder appears healthy.

From a gentleman, 70 years old, who for several years had occasional attacks of irritation in the bladder, which he ascribed to gravel. In the last of these retention of urine ensued; it was relieved by the catheter, but he died of peritonitis, which had been overlooked in the urgency of the symptoms referred to the bladder.

The case is described by Sir E. Home in his work 'On the Treatment of the Diseases of the Prostate Gland,' vol. i. p. 154; and the preparation is figured in the same volume, pl. vi.

Presented by Sir Everard Home.

4313. Part of a bladder, with a prostate gland slightly and uniformly enlarged in all its parts. In the situation of the middle lobe the enlargement forms a low conical elevation in the neck of the bladder; this, as in the specimen last described, is transversely oval, and, by two shallow grooves diverging from the caput gallinaginis, and passing over it, has acquired a superficially trilobed form.

Presented by Sir William Blizard.

4314. A bladder, prostate gland, and adjacent parts, together with one of the kidneys of the same person. The prostate gland is uniformly enlarged to more than twice its natural size, and the part of the urethra within it is very deep and narrow. The middle portion of the gland is elevated like a transverse barrier, with a smoothly rounded, level, upper margin across the neck of the bladder. The mucous membrane of the bladder is in several places pushed-out in sacculi of various size and depth between the bundles of the hypertrophied muscular coat, which are peculiarly strong above and behind the enlarged prostate. The ureters and the pelvis of the kidney are dilated and thickened. The glandular substance of the kidney is in great part removed, and its calyces are dilated into large sacs. *Hunterian.*

4315. Part of a bladder, with a uniformly enlarged prostate gland. The middle portion of the gland appears wider

than is natural, but forms no prominence in the neck of the bladder. Numerous cavities in the prostate open by wide smooth orifices in the urethra. One of them is in the situation of the right ejaculatory duct, as if that were dilated to more than a line in diameter. The others were probably made with catheters. The prostatic part of the urethra appears to have been large, and little, if at all, laterally compressed. There is a circumscribed cavity behind the lower part of the bladder, with rough granulated walls—the remains, probably, of an abscess between the bladder and rectum. The muscular coat of the bladder is hypertrophied, and the transverse band of fibres between the ureters is peculiarly large and prominent. *Hunterian.*

Enlargement affecting especially the Lateral Lobes.

4316. Part of a bladder, with an enlarged prostate. Numerous deep sacculi of the mucous membrane of the bladder are pushed-out between the bundles of the hypertrophied muscular coat. The prostate is enlarged to three or four times its natural bulk, and its section presents a coarsely fibrous aspect, with bright or shining white fibres curving and circling in a pale firm homogeneous basis, much like a fibrous tumour. The right lobe is by one half larger than the left, and the middle lobe is prominent in the bladder. The prostatic part of the urethra is deep and narrow, and curved in adaptation to the enlargement of the right lobe of the prostate. The caput gallinaginis is prominent and sharp-edged. The ureters are dilated. *Hunterian.*

4317. Part of a bladder, with an enlargement of the prostate gland rather greater than that last described. The enlargement affects the right side of the gland rather more than the left; and the middle portion forms a large nipple-like projection in the neck of the bladder. The upper and anterior part of the gland having been cut away, the characteristic deepening of the urethra and its flattening from side to side are well shown. The urethra is also curved

with a concavity directed towards the right, in correspondence with the convex surface of the enlarged right lobe: from this it passes by the nipple-like projection in the situation of the middle lobe, at the right side of which it opens into the bladder. The section of the gland displays a dense, pale, nearly uniform structure, with the orifices of a few groups of dilated ducts opening on it. The calculus, which lies loose in the bottle, was found in the bladder after death, and appears to have rested behind the enlarged prostate. *Presented by Sir William Blizard.*

4318. Part of a bladder, with an enlarged prostate gland. The enlargement has taken place to a much greater extent in the left than in the right lateral lobe of the prostate. The middle lobe is scarcely prominent; the left lobe forms a low, smooth, convex elevation in the neck of the bladder. The vesical orifice of the urethra, in adaptation to the change of form in the prostate, has the shape of a narrow crescent, with its horns three quarters of an inch apart and turned to the left side. This orifice is also much nearer to the anterior than to the posterior part of the bladder, in consequence of the posterior middle portion being much more increased than the anterior middle portion is. The muscular coat of the bladder is hypertrophied: in other respects it is healthy. *Hunterian.*

4319. The bladder and prostate gland of a gentleman 86 years old. The bladder is small and thickly walled, and exhibits many small pits of mucous membrane depressed between its muscular fibres. About the entrance of the ureters its coats are all equally dilated in two shallow sacculi. The prostate gland is enlarged so as to form a nearly globular firm mass, three and a half inches in diameter. The right lobe is enlarged rather more than the left, and the vesical orifice of the urethra has the form of a crescent, elevated in the neck of the bladder, with its horns directed towards the right side. The orifice is situated near the middle of the gland and of the neck of the bladder, for the anterior part

of the prostate is as much increased as the posterior part is. A portion of the posterior part of the prostate has been removed, and displays a dense obscurely fibrous texture, with the open orifices of groups of ducts.

From the Museum of Sir A. P. Cooper.

4320. A bladder and prostate gland, with parts of the rectum and penis. The bladder is of large size, and all its coats, but especially the muscular one, are much thickened. Numerous small portions of mucous membrane are pushed outwards between the fasciculi of the muscular coat; and at the upper part of the bladder are two large sacs formed of the extruded mucous and submucous coats, with, apparently, a thin layer of muscular tissue. They communicate with the cavity of the bladder by narrow orifices. The rest of the mucous membrane is folded and creased like the skin of the palm of a hand. The prostate is enlarged; its lobes project far into the bladder, forming a deep ridge nearly all round the urethral orifice. There is a deep and extensive ulceration of the anterior wall of the rectum directly below the prostate gland, as if an abscess had formed between them, and burst into the intestine. The tissues around the ulcerated part are hardened and contracted.

The patient, a man 76 years old, had for a long time signs of disease of the pelvic organs, and occasional retention of urine.

From the Museum of Robert Liston, Esq.

4321. The bladder and prostate gland, with a portion of ileum, from a gentleman 96 years old. The bladder is very large; its muscular coat is thickened and strongly fasciculated, but weak and flabby. The mucous membrane is extruded in pits, and deeply wrinkled. There is a large quantity of adipose tissue on the outside of the bladder; and a portion of ileum is adherent to the peritoneum covering its fundus. The prostate gland is enlarged to between four and five times its ordinary dimensions, and especially in its right lobe, which projects in a large knobbed oval mass into the neck of the bladder. The enlarged left lobe projects similarly, but to a less extent.

4322. A bladder, with an enlarged prostate gland and part of the urethra. The bladder is very large; its coats are thin, but strongly fasciculated. The prostate gland is enlarged to a mass nearly three inches in diameter, and more than usually knobbed and irregular on its surface. A part of the enlarged right lobe projects in a globular knotted mass, an inch and a half in diameter, into the neck of the bladder; and there are two smaller masses or knobs by its side, which appear to be formed by the enlarged middle lobe pushed aside by the predominantly enlarged right lobe. Between these masses there is left only a narrow and crooked passage to the urethra. The prostatic part of the urethra is very deep and narrow, but its mucous membrane, as well as that of the bladder, is healthy. The caput gallinaginis is large, and diverging fasciculi pass from it to the principal enlargements of the prostate gland.

The patient was a gentleman, 83 years old, who for upwards of thirty years had difficulty and frequent necessity of passing his urine. These symptoms were much aggravated during the last five years of his life, and they were accompanied with occasional incontinence of urine, pain in the urethra and bladder, and a distressing sense of fulness in the rectum, which he could scarcely succeed in completely emptying. Retention of urine occurred about two months before death, but was easily relieved by the catheter.

The case is further described by Sir E. Home, *l. c.* vol. ii. p. 164; and the preparation is figured in the same volume, pl. v. (not in pl. iv., to which, in the history of the case, the reference is made).

Presented by Sir Everard Home.

4323. A bladder, with an enlarged prostate gland. The muscular coat of the bladder is very much hypertrophied, the mucous membrane is corrugated and depressed in numerous pits. At the middle of the posterior wall of the bladder there is a large thickly-walled sac opening into the cavity by a narrow round orifice. The enlargement of the prostate gland affects the lateral lobes almost exclusively. They are about five times their ordinary size, and form two smooth oval masses with convex surfaces, which are in contact in the middle of the urethra, directly over the caput gallinaginis, and project in large and high elevations in

both sides of the neck of the bladder. There is no prominence in the situation of the middle lobe, and the specimen appears to show how the lateral lobes, being thus allowed to come more nearly into contact, produced even a greater narrowness of the prostatic part of the urethra than is usual when the middle and posterior portion of the gland is proportionally enlarged, and holds the enlarged lateral lobes asunder. The section of the anterior and middle portion of the gland is from half to three quarters of an inch in thickness: small masses, like fibrous tumours imbedded in it, project from its surface.

Presented by William Norris, Esq.

4324. A bladder, prostate, part of the urethra, and rectum. The coats of the bladder are greatly thickened: the prostate very much and irregularly enlarged, the enlargement especially affecting the lateral lobes, between which is the flattened urinary passage. The bladder contains a small oval calculus, which was found lodged in the spot to which it is now fixed. An opening, through which a blue glass rod is passed, was made twenty-eight days before death between the bladder and rectum, through the middle line of the prostate.

From a man aged 72. He was admitted to St. Bartholomew's Hospital for retention of urine. He appeared to be suffering from uræmic poisoning, and was very ill. He had passed little or no water for three days, the urethra was very irritable, and the bladder distended. The bladder was punctured through the rectum, and a small, firm, elastic catheter was introduced. He improved at first, but his condition soon deteriorated, and he died twenty-eight days after the operation. (MS. Notes, vol. i. p. 22.)

Presented by Thomas Wormald, Esq.

Enlargement affecting especially its Middle Lobe.*

4325. Part of the bladder, with the prostate gland and other adjacent parts. The prostate is slightly enlarged, especially

* "Besides this effect of the lateral parts swelling, a small portion of it, which lies behind the very beginning of the urethra, swells forwards like a point, as it were into the bladder, acting like a valve to the mouth of the urethra, which

in its middle lobe, which projects with a smooth convex surface in the vesical orifice of the urethra. There are deep and wide furrows by the side of the caput gallinaginis, and the prostatic portion of the urethra is not narrower than is natural.

Venereal.

"Sir Thomas St——n, about 55 years of age, of a weak constitution, nervous, rheumatic, gouty, and breakings out in the skin like scurvy; often attacked with one, two, or more of the above complaints, therefore seldom well; has been very much addicted to venery. Complaints in the urinary passages he had none, excepting many years back, when he was a young man, and they were only temporary, leaving no visible remains. He was rather remarkable for the retention of his water.

"In June 1779 he was attacked with a frequency in making water, attended with a great difficulty and pain. He was attended by Dr. T——n, as there was some fever. I was called in to examine him, which I did with a bougie, but found no obstruction. I then suspected the prostate gland, and found it to be large and as hard as a bullet, and very sore when pressed. He had leeches applied to the perinæum, bladders of warm water applied, and he sat in warm water, which he thought relieved him. He became yellow, with whitish stools, for which he took four grains of calomel every other night, and which cured him of that complaint. All his symptoms in the time of making water abated, and in about a month's time he retained and made his water very well, only knew that he was making it. He left off the calomel.

"Things being in such a state, I thought it advisable to examine the prostate again, to see if these abatements of the symptoms were owing to a resolution of the prostate gland; but upon examination the gland was found as large and nearly as hard as before.

"As his symptoms came on almost at once, and as the prostate was then found very large, it became a matter of consideration whether this swelling in the gland was recent, as it were, coeval with the symptoms; or whether it had been coming on by degrees for some time back, and without ever having given the least symptom of it; as I had never seen a case where the prostate gland was enlarged, but what there had been complaints in the urethra, such as pain, urging, and frequency in making water, and as the gland enlarged these symptoms became worse and worse;

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can be seen even when the swelling is not considerable, by looking upon the mouth of the urethra from the cavity of the bladder in a dead body. It sometimes increases so much as to form a tumour, projecting into the bladder some inches. This projection turns or bends the urethra forwards, becoming an obstruction to the passage of a catheter, bougie, or any such instrument; and it often raises the sound over a small stone in the bladder, so as to prevent its being felt."—*Hunter*, "*On the Venereal Disease*," *Works*, vol. ii. p. 279.

from which I conceived that in the present case, where the gland was very large, that the swelling and symptoms might have come on together; but from the symptoms going off without any determination [diminution] of the size of the gland, I began to suspect that the swelling of the gland was of some standing, and what produced the symptoms now was an inflammation attacking it; for it is evident, from the state of the gland at the last examination, that it may be considerably swelled without giving any symptoms at all."—*Hunterian MS. Cases in Surgery*, p. 564.

The specimen is engraved in Sir Everard Home's work 'On the Prostate Gland,' vol. i. pls. 2, 3.

4326. An exactly similar specimen, except in that the bundles of muscular fibres passing from the orifices of the ureters to the posterior part of the prostate are remarkably large.

Hunterian.

4327. Part of a bladder, with an enlarged prostate gland. The enlargement has taken place chiefly in the middle lobe, which is raised in a broad thick transverse ridge or bar behind and below the vesical orifice of the urethra. The anterior surface of this ridge forms nearly a right angle with the rest of the prostatic part of the urethra; and its prominence appears the greater from the urethra directly in front of it being dilated into two deep fossæ by the sides of the caput gallinaginis. There are small calculi at the orifices of two of the prostatic ducts. The cut surfaces of its lateral lobes display an irregularly fibrous texture, white fibres running with various curves through a pale homogeneous basis; and the cut orifices of numerous slightly dilated ducts contain minute calculi. *Hunterian.*

4328. A bladder and prostate gland, with parts of the urethra and rectum. The muscular coat of the bladder is much hypertrophied, and the mucous membrane is pushed out in numerous pits between the bundles of fibres, so that internally the wall of the bladder looks just like the auricle of a large heart. At the upper part there is one large sacculus of the mucous membrane. The prostate gland is slightly enlarged; and the projecting middle lobe, together with

two folds formed of thickened mucous membrane and, probably also, of muscular fibres, which connect it with the lateral lobes, forms a bar, like that last described, across, or around, the posterior half of the orifice of the urethra. The junction of the bulbous and membranous parts of the urethra is slightly strictured. The rectum exhibits several small hæmorrhoidal tumours.

The patient was a nobleman 80 years old. He had led a very dissolute life, and suffered for many years with difficulty and frequent need of passing his water. His bladder became at last very irritable, and he twice had retention of urine. Catheters were passed three or more times a day for the last three years of his life, and he died at last of some disease of the intestines.

The case is related by Sir E. Home, *l. c.* vol. i. p. 150; and the preparation is figured in the same vol., pl. v.

Presented by Sir Everard Home.

4329. A bladder, prostate gland, and part of a penis. The bladder is small, and its mucous membrane sacculated. The prostate gland is considerably enlarged, and that part of it which projects immediately behind the vesical orifice of the urethra is connected, as in the last specimen, with the lateral enlargements by two broad and thick transverse ridges. Together, they form one broad and deep ridge, projecting from behind forwards far over the posterior part of the orifice of the urethra, and giving the prostatic portion of the canal an unnatural curve, first upwards and then forwards. The rest of the urethra is healthy.

Presented by Sir Everard Home.

4330. Part of a bladder, with an enlarged prostate gland. The muscular coat of the bladder is hypertrophied, and its mucous membrane sacculated. The enlargement has especially affected the prostate in the situation of the middle lobe, which projects in a broad nipple-like process behind and over the vesical orifice of the urethra, giving the orifice the form of a narrow crescent with its horns turned backwards. *Presented by Sir Everard Home.*

4331. A bladder, prostate gland, and vesiculæ seminales. The

prostate gland, like that last described, is enlarged to nearly three times its ordinary size; and its middle and posterior part projects in a round smooth mass into the neck of the bladder, just behind the orifice of the urethra. Its anterior portion is little, if at all, increased. A bougie is placed in the urethra. The coats of the bladder are one third of an inch thick, and its muscular tissue is strongly fasciculated and prominent.

Signs of the disease existed for two years.

From the Museum of Sir A. P. Cooper.

4332. Part of a bladder, with the prostate gland enlarged into a spheroidal mass nearly three inches in diameter. The middle lobe forms a tumour projecting into the neck of the bladder, upwards of an inch in width, and three quarters of an inch in depth, and marked on its anterior surface with a deep groove, in which a bougie long rested. The prostatic portion of the urethra has a nearly vertical direction, and is much elongated. *Hunterian.*

4333. Part of a bladder, with the prostate gland, enlarged to between five and six inches in its transverse diameter. The chief increase is in the situation of the left and middle lobes; and the surfaces of those portions of them which project in the bladder and urethra are grooved, so that they appear to be composed of distinct lobes. The same lobed appearance was (and is still in some measure) presented, on a section of the enlarged gland; in which its whole mass seems composed of oval portions of soft spongy substance, held together with intermediate cellular bands. A small oval mass, like a fibrous tumour, projects separately from the front of the chief enlargement, with which it is connected by cellular tissue.

The patient, 70 years old, had for several months had difficulty in making water, when he was seized with complete retention of urine. The catheter was introduced five times, and then, its introduction being difficult, the bladder was punctured from the rectum. In a few weeks after this the patient began to pass urine through the urethra, and the recto-vesical opening healed, so

that no trace of it remains. He continued nearly well for about eight months, and died with inflammation of the bowels.

The case is further related by Sir E. Home, *l. c.* vol. ii. p. 19; and the preparation is figured in vol. ii. pl. ii.*

Presented by Sir Everard Home.

4334. Part of a bladder, with the prostate gland and part of the urethra. The prostate gland is enlarged to between five and six times its usual dimensions, particularly in the situation of the middle lobe. A nearly pear-shaped mass, an inch in its chief diameter, projects into the neck of the bladder. On the upper part of this mass is a small separate knob or elevation, apparently formed by the growth of a distinct small spherical tumour. Between the sides of this mass and the enlarged lateral lobes of the gland, two very narrow channels lead to the urethra. The prostatic part of the urethra is very deep and narrow, and on its lower wall is a high ridge formed by a kind of frænum, extending from the caput gallinaginis to the middle enlargement of the gland. What is preserved of the bladder appears healthy.

The patient was a gentleman exceedingly fond of riding great distances on horseback, in whom, when 55 years old, hæmorrhage used to occur from the bladder whenever he rode. The urine always came first, and when it was all evacuated, dark blood followed. This continued for four years without any other symptoms of disease, but he would not give up his plan of riding. When 59, after riding longer than usual, the bleeding became more copious, and was soon followed by retention of urine. He would not have an instrument passed, as some urine was constantly flowing from the over-distended bladder; and this went on with little change for three weeks. The catheter was then repeatedly introduced, and he was much relieved, although the secretion of urine was very scanty. Three weeks afterwards, on a sudden, almost complete suppression of urine occurred; he became insensible, and slowly died. After death there was seen on the small distinct elevation of the middle enlargement "a ruptured vein, filled with

* By comparing the preparation with the plate and description, it appears that the greater part of the description of pl. iii. belongs to pl. ii., the preparation figured in pl. ii. being that of which the internal structure was particularly examined; the reference, therefore, at p. 21 to pl. iii. should be to pl. ii., and that at p. 69 to pl. ii. should be to pl. iii.

half-coagulated blood," from which it was supposed that the frequent hæmorrhage had taken place.

The case is detailed by Sir E. Home, *l. c.* vol. ii. p. 33; and the preparation is figured in the same vol. pl. i.

Presented by Sir Everard Home.

4335. A bladder hypertrophied, with enlargement of the prostate, chiefly involving the right and middle lobes, and making the prostatic part of the urethra very tortuous.

From a gentleman aged 74. He had for many years been in the habit of passing a catheter to empty his bladder, which suddenly became very irritable, the urine at the same time containing pus and occasionally blood. After these symptoms had existed for six weeks he died. Both kidneys were found contracted and suppurating, with dilated pelves and ureters; the bladder was much inflamed. (See MS. Notes, vol. i. p. 132.)

Presented by John Adams, Esq., 1868.

4336. A bladder and prostate gland. The bladder is large, its muscular coat is somewhat hypertrophied, and a large thick-walled sac opens into its left side by a narrow circular orifice. The prostate gland is considerably enlarged, but the part corresponding to the middle lobe is increased in a much greater proportion than either of the lateral lobes; so that it surpasses them in size, and forms a large smooth pyriform tumour, which measures about two and a half and two inches in its chief diameters, projects into the neck of the bladder, and forms a broad and deep barrier behind the vesical orifice of the urethra. The prostatic part of the urethra is very deep and narrow; and, at the enlarged middle lobe of the gland, suddenly turns upwards at a right angle to its former course. The ureters are dilated, and their walls are thickened. Strong fasciculi pass from the caput gallinaginis to the enlarged middle lobe.

From the Museum of John Taunton, Esq.

4337. A bladder, laid open by a vertical incision, with the prostate gland, which is uniformly enlarged and of which the middle lobe projects far into the bladder. The bladder is

thickened, and extending from its upper part is a sacculus as large as itself.

The patient was a medical man aged 67. For some years he had had difficulty in evacuating his bladder, and his efforts at urination were great. He would hold the prepuce, and then with strong muscular effort would squeeze some urine along the urethra; then, suddenly letting the prepuce go, about half an ounce would be ejected. This process would be repeated many times, until no more urine passed. No catheter had ever been used. A soft catheter drew off more than a pint of clear urine, and this operation was subsequently repeated either by his medical attendant or himself. The later symptoms were those of acute cystitis and gradual coma. The kidneys were healthy.

Presented by Dr. Penhall, 1876.

4338. A bladder, with an enlarged prostate gland. The bladder is very large; its muscular coat is one third of an inch thick, and the mucous membrane is pushed out in many sacculi between the bundles of muscular fibres. The lateral lobes of the prostate are enlarged to more than three times their ordinary dimensions, and in the situation of the middle lobe there is a spheroidal mass nearly two inches in diameter, apparently formed by the enlargement of that part of the gland. This mass is covered with smooth mucous membrane, and a small lens-shaped body, probably a fibrous tumour, is fixed to its upper part. Below, the enlarged lobe becomes gradually narrower towards the caput gallinaginis, so that, in this aspect, it has a somewhat pyriform shape. On each side of the base of the tumour, in the passages leading past it into the cavity of the bladder, there are some slight lacerations of the mucous membrane, made in the attempts to introduce catheters. The prostatic part of the urethra is narrow, and more than half an inch in depth.

From a gentleman 53 years old, who was for many years supposed to suffer from stone, and passed a small calculus two years before his death. He could pass his water easily as he lay on his back; but scarcely at all when standing or kneeling. No stone could be detected by sounding, and the introduction of the instrument was very difficult and painful. In the last week of his life he had retention of urine, and gradually increasing insensibility. The bladder, after death, was found to contain seven or eight angular stones, and the ureters were dilated and obstructed.

The case is further described in Sir E. Home's work already cited, vol. i. pp. 169, 265; and the preparation is figured in pl. ix. The pelvis of the right kidney and part of the ureter are preserved in No. 3603.

Hunterian.

Enlargement, especially of the Anterior and Middle Parts.

4339. A bladder, with the prostate gland, part of the penis, &c. The bladder is remarkably enlarged, its muscular coat is hypertrophied, its mucous membrane thickened and indurated, but smooth on its internal surface. The prostate gland is enlarged to three or four times its ordinary size. The chief increase has taken place in its upper and anterior middle part, so that the course of the urethra (in which a piece of catheter is placed) is much less curved than is usual in cases of enlarged prostate; and a round nipple-like mass, nearly an inch in diameter, projects into the neck of the bladder in front of the vesical orifice of the urethra. There are two smooth and flat oval calculi, each about an inch in its chief diameter, in the cavity of the bladder; and a third, of rather smaller size, lies loose in the bottle.

The patient had for a long time retention of urine, and died exhausted.

From the Museum of Robert Liston, Esq.

4340. A bladder with a large spherical tumour, four inches in diameter, situated in the anterior portion of the gland, and projecting into the cavity of the bladder. A glass rod is placed in the urethra, which courses along the inferior surface of the tumour, of which the section is dense and fibrous, but dotted with small open spaces.

Microscopical examination in 1885 showed that the tumour was made up of fibrous tissue, containing a varying proportion of unstriped muscle, which enclosed well-defined alveoli, filled with closely packed, elongated, or sub-columnar epithelium.

From a gentleman aged 58. He first suffered retention of urine from overstaying the desire to evacuate the bladder in a journey by railway. It was not till ten years later that he came under the treatment of Mr. Quain for the same complaint (retention). Catheters had been passed several times before, and always produced bleeding. The enlarged prostate nearly filled the cavity

of the pelvis, and projected above the upper border of the pubes. The attacks always came on when he had overstayed the inclination or the time for passing urine, and he would then suffer severe pain. By care in the passage of catheters, and in evacuating the bladder before any over-distension occurred, the patient lived till he was 81, and then died of exhaustion after idiopathic erysipelas.

The case is recorded in the 'Medical Times and Gazette,' vol. i. 1872, p. 566.

Presented by Richard Quain, Esq.

4341. Part of a bladder, with an enlarged prostate gland. The muscular coat of the bladder is hypertrophied. Its mucous membrane is depressed in numerous pits between the muscular fasciculi, and is in some situations superficially ulcerated and covered with lymph. The prostate is generally enlarged, and the parts of it which project into the bladder and urethra are irregularly knobbed. Part of the right lobe projects in a short and thick nipple-like process into the neck of the bladder, in front of the enlarged middle lobe. Part of the left lobe projects in a broad but rather flattened process into the urethra directly over the caput gallinaginis so as to be in contact with the opposite wall. The form of the prostatic part of the urethra is thus remarkably altered. It is elongated and increased in depth; it bends first to the right, and then turns sharply to the left round the projecting and almost completely obstructing portion of the left lobe. The chief passage for the urine appears to have been in front of this projection. The middle lobe forms a deep and broad, transverse, and tri-lobed ridge across the neck of the bladder; on its upper surface are traces of laceration made in passing catheters.

The patient was a gentleman about 70 years old. He had suffered for three years from difficulty in making water, when, in 1814, complete retention occurred. This was relieved by the catheter, which was passed with great difficulty, and was often allowed to remain long in the bladder. In two months he appeared nearly well, but in a month after was again unable to empty his bladder completely; it became much more irritable, and one day hæmorrhage, amounting to nearly three pints, took place from it. On subsequent days the hæmorrhage returned to a smaller amount, and he died exhausted.

The case is further detailed by Sir E. Home, *l. c.* vol. ii. p. 157;

and the preparation is engraved in the same vol. fig. iv. (not pl. iii., to which, in the history of the case, the reference is given).

Presented by Sir Everard Home.

4342. A bladder and prostate gland. The muscular coat of the bladder is hypertrophied, and its mucous membrane is thickened and depressed in deep pits between the muscular bundles. The prostate gland is enlarged, generally; but chiefly in the left lobe, and in the portion corresponding to the middle lobe. In the situation of the latter, or between it and the right lobe, there is a prominent nipple-like enlargement directed very obliquely towards the left side. The left lateral lobe, more enlarged than the right, projects with an abruptly raised convex surface into the urethra, so that the course of the prostatic part of the urethra is, as in the preceding specimen, tortuous, turning first to the right and then sharply round to the left, between the projecting enlargements of the left and middle portions of the gland.

From an old man who had long had disease of the urinary organs. At last, he had retention of urine, which was relieved several times a day by the catheter, but incontinence of urine supervened; that which was passed was high-coloured, slimy, and fœtid; and he gradually sank.

From the Museum of Robert Liston, Esq.

4343. A bladder, prostate gland, and part of the urethra. The cavity of the bladder is small, partly through its own contraction, but more in consequence of the encroachment of the prostate upon it. Its muscular coat is hypertrophied, its mucous membrane thickened. The prostate gland is enlarged to a compact spheroidal mass, from four to five inches in diameter. Its surface, where it projects into the bladder, is very irregularly knobbed, and forms a ridge an inch and a half deep all round the orifice of the urethra. This ridge is especially prominent at the posterior part, so that the greater portion of the cavity of the bladder lies behind and above it. The vesical orifice of the urethra was situated at a groove on the top of the posterior part of the ridge, between the two chief enlargements of the prostate;

and immediately behind this groove, and resting on the ridge, lay a calculus. The prostatic portion of the urethra is nearly three inches long, very deep and narrow; its curve is nearly that of a semicircle, and its general direction nearly vertical. A very prominent fold of mucous membrane leads from the caput gallinaginis to the chiefly enlarged part of the middle of the prostate, and almost divides the prostatic portion of the urethra into two channels. The large irregular incisions through the membranous part of the urethra, as well as that by which a portion of the prostate is cut off and turned backwards, were made in lithotomy.

The patient was an old nobleman who for several years previous to 1803 had difficulty in making water, doing it effectually only when his bowels acted. In 1803 he had complete retention of urine. After this he passed his water voluntarily, but always with pain about the neck of the bladder. In 1806 the pain and distress in making water having constantly increased, a stone was found in the bladder: he was cut, and recovered in five weeks. But in four months his symptoms returned, and continued to increase for more than two years. In 1809 another stone was detected; shortly after this he had two epileptic fits; and seven months after he was again operated on, and a stone was removed, of which the form indicated that it had lain in the pouch behind the ridge of the enlarged prostate, and on the groove between the two chief projections into the bladder. He died in less than an hour after the operation.

The case is further detailed by Sir E. Home, *l. c.* vol. i. p. 176; and the preparation is engraved in the same vol., pl. xi.

Presented by Sir Everard Home.

4344. Sections of the calculus removed from the bladder of the patient whose history has been just detailed.

Presented by Sir Everard Home.

4345. A bladder and prostate gland. The coats of the bladder are thickened and indurated, and two small thickly-walled sacculi communicate by narrow orifices with its cavity. The prostate gland is enlarged to nearly four times its ordinary size; and that part of it which projects into the bladder surrounds the orifice of the urethra, and is divided

by deep grooves into five lobes, each of which is narrow at the caput gallinaginis, and thence gradually enlarges as it diverges towards the neck of the bladder. The rest of the enlarged gland has its usual spheroidal form.

From the Museum of John Taunton, Esq.

4346. A bladder, prostate gland, and part of the penis. The bladder is very large, its muscular coat is hypertrophied, its mucous membrane thickened and flocculent, especially about the neck, where it is also in many places superficially ulcerated. The prostate gland is increased to nearly three inches in width. In the neck of the bladder it projects in four distinct knobbed pyriform lobes, each about two inches long, and an inch in thickness at its larger end, and all tending at their narrow ends towards the caput gallinaginis. The two middle of these lobes are roughly ulcerated on their surfaces. The prostatic part of the urethra is very deep and large, and exhibits several depressions or cavities in its walls, produced probably by the forcible introduction of instruments. The rest of the urethra, so far as it is preserved, is also very large, and has been similarly injured in several places. About the middle of its spongy portion there is a false passage, nearly two inches in length, by the side of which a great part of the wall of the urethra appears to have been destroyed. *Hunterian.*

Enlarged Prostate Glands pierced with Instruments.

4347. Part of a bladder, with an enlarged prostate gland. The bladder is very much contracted, its muscular coat is hypertrophied, and its mucous membrane deeply corrugated. The enlargement of the prostate is general but proportionally greater in the middle than in the lateral lobes. The middle lobe projects and overhangs far in the bladder, and there is a deep wound on its anterior part, which was made in introducing a catheter. The prostatic portion of the urethra is narrow, deep, and nearly vertical.

From a gentleman, 77 years of age, who had three attacks of retention of urine in the last three years of his life. They were

all relieved by keeping a catheter in the bladder, and after each he regained power over his bladder. In a fourth attack he became dropsical and died.

The case is related by Sir Everard Home, *l. c.* vol. i. p. 168; and the preparation is figured in pl. viii. of the same volume.

Hunterian.

4348. A bladder, prostate gland, and part of a penis. The muscular coat of the bladder is hypertrophied; its mucous membrane is depressed in numerous pits, thickened, and about the neck superficially ulcerated and covered with a thin layer of lymph. The prostate gland is generally enlarged to three or four times its natural dimensions, and the middle lobe is prominent and overhanging. Its surface, both in the urethra and where it projects into the bladder, is torn and ulcerated, in consequence of the frequent passage of catheters. The chief ulceration is in the prostatic part of the urethra, and on the left side of the middle lobe, marking exactly the direction which was usually given to the catheter.

From a man, 73 years old, who had signs of enlarged prostate for four years. His last and chief illness commenced a month before his death, with great difficulty and pain in making water, and an almost constant desire to do so. The catheter was passed twice or more in each day after this time, sometimes easily, but often with much difficulty. It could not be long retained in the urethra on account of the great pain which it caused about the neck of the bladder.

The case is further detailed by Sir E. Home, *l. c.* vol. ii. p. 52; and the preparation is figured in the same vol., pl. vii.

Presented by Sir Everard Home.

4349. Part of a bladder, with a prostate gland, a portion of the penis, &c. The prostate is enlarged in all its dimensions, and forms a broad and deep barrier behind and nearly all round the vesical orifice of the urethra. The prostatic part of the urethra is enlarged and remarkably increased in depth, and in its course forms nearly a semicircle. A portion of glass is placed in a false passage, which, commencing in front of the bulbous portion of the urethra, passes obliquely upwards and to the right, through the

upper part of the enlarged right lobe of the prostate, into the anterior part of the neck of the bladder.

The patient, 63 years old, suffered long with disease of the urinary organs. Retention of urine at last coming on, a catheter was forcibly introduced into the bladder; and, after passing bloody urine, he gradually sank.

From the Museum of Robert Liston, Esq.

4350. A bladder, prostate gland, and penis. The muscular coat of the bladder is hypertrophied, all the tissues around it are thickened and indurated, and there is lymph on its peritoneal coat. The mucous membrane also is thickened, deeply corrugated, and here and there superficially ulcerated. The prostate gland is enlarged to nearly three inches in width; all its parts are equally affected. A portion of bougie is placed in a passage forced through the middle part of the enlarged prostate. This passage leads straight through the substance of the gland into the bladder; its opening into the urethra is smooth and round, that into the bladder is ulcerated and surrounded with lymph. The prostatic and membranous portions of the urethra appear to have been acutely inflamed, and about an inch behind the glans penis the urethra seems to be dilated into a large oval sac, with uneven ragged walls, which has been widely laid open from below, and was probably an abscess.

The patient, an aged gentleman, had often had retention of urine, and had been as often relieved with the catheter. But two or three weeks before death, a surgeon, finding difficulty in passing the catheter, perforated the prostate with it.

The specimen is engraved in Mr. Crosse's "Treatise on the.... Urinary Calculus," pl. xiii., and described at p. 117.

Presented by John Greene Crosse, Esq.

4351. A vertical and transverse section of part of a bladder, and a prostate gland. The prostate is enlarged to four or five times its ordinary size; its substance is firm, but not compact, and in its interior there are numerous small cysts, oval or round in shape, and from half a line to three lines in diameter, probably portions of dilated ducts. The right lobe is much larger than the left, and the course of the

urethra is curved in correspondence with its greater projection. A portion of glass is placed in a passage which was forced with an instrument from the urethra into the bladder, through the inner part of the right lobe, and the right side of the enlarged middle lobe, of the prostate. All the prostatic part of the urethra appears to be superficially ulcerated.

The patient, 79 years old, having retention of urine from the enlargement of the prostate, the false passage was, after some vain attempts to introduce a catheter, bored through the substance of the gland. The instrument thus passed-in was left for two days in the bladder. Urine, without blood, flowed freely through it, and on its withdrawal the patient made water very frequently by his own efforts. For eight days he went on favourably, and then suppression of urine came on, and continued for forty-eight hours. On the secretion being re-established he rallied, but a few days later an affection of the throat supervened, which appeared to be the immediate cause of his death. Acute peritonitis was found to have existed in the neighbourhood of the bladder.

From the Museum of Robert Liston, Esq.

4352. A similar specimen, except in that the mucous membrane of the neck of the bladder and the prostatic part of the urethra is extensively ulcerated, in consequence probably of the injury done in the perforation of the middle lobe of the prostate gland.

4353. A bladder, prostate gland, and penis. The cavities of the bladder and urethra are exposed by a section on the right side. The prostate gland is enlarged to about four inches in diameter, and its posterior and middle portion projects in a broad and thick ridge, upwards of an inch in depth, behind and above the vesical orifice of the urethra. A portion of glass is passed through a passage which was cut through the base of this ridge. The passage commences in the middle of the posterior wall of the prostatic portion of the urethra, goes straight onwards through the substance of the gland, and enters the neck of the bladder just behind it. The prostatic part of the urethra is dilated: the rest is healthy.

The patient, a man 82 years old, had difficulty in voiding urine

for many years, and was admitted into the Mary-le-bone Infirmary with retention of urine of forty-eight hours' duration. Mr. Stafford, with a stiletted catheter, perforated the prostate gland, as shown in the preparation. Two quarts of bloody urine were drawn off, and a catheter was left in the bladder for three days. It was then withdrawn and passed through the opening in the prostate every night and morning for a fortnight, when the man began to void urine naturally. He did so to the time of his sudden death, nearly six weeks after the operation. The cause of his death appeared to be connected with effusion in the cerebral ventricles and pericardium.

The case is related and the specimen engraved in 'An Essay on the Treatment of some Affections of the Prostate Gland,' by R. A. Stafford, p. 81, London, 1840, 8vo.

Presented by Richard A. Stafford, Esq.

4354. A bladder, with the prostate gland and vesiculæ seminales. The prostate gland is uniformly enlarged to nearly four times its ordinary dimensions. The middle and posterior portion of the gland forms a broad elevated ridge between the urethra and the neck of the bladder; and a wide, smoothly walled, oblique passage, in which a portion of bougie is placed, has been made through its substance. The walls of the bladder are thin, and its mucous membrane, in more than twenty places in the posterior and lateral walls, is protruded through the muscular fibres in round and oval narrow-mouthed sacs of various sizes, from a quarter of an inch to nearly an inch in diameter. At the entrances of the ureters, also, there are two larger and less prominent sacs, in the walls of which all the coats of the bladder appear to be comprised. The vesiculæ seminales are very small. *From the Museum of Sir A. P. Cooper.*

4355. A bladder, with an enlarged prostate gland &c. The bladder is large, and its mucous membrane is protruded in many sacculi between the muscular fibres, but the muscular coat is thin and flaccid. The chief enlargement of the prostate is in the left lobe, which projects in an oval tumour, nearly an inch in diameter, into the neck of the bladder. The middle and right lobes are enlarged in a less degree. The middle lobe projects far into the bladder. A passage, in which a piece of bougie is placed, was forced with a

catheter through the middle lobe five years before the patient's death. The vesical orifice of the urethra had the form of a large crescent, the convex surface of the enlarged left lobe being adapted to a concavity in the surface of the right lobe. The prostatic portion of the urethra is very large; it forms a kind of oval cavity, two inches long, and (now that it is laid open) an inch in width.

The patient was a gentleman 65 years old, who had not been able to pass his urine voluntarily for five years before his death. The retention first occurred in consequence of his being accidentally prevented for several hours from making water. During the first year after this occurrence, the catheter was introduced with so much difficulty that it was necessary to leave it in the bladder, and change it only occasionally. Afterwards it was found that, by imitating exactly the form which the catheter assumed when it had lain some days in the bladder, another might always be easily introduced. The patient died at last of an affection of the bowels.

The case is described in Sir E. Home's work already cited, vol. i. p. 174; and the preparation is figured in the same vol., pl. x.

Hunterian.

Abscess and Ulceration.

4356. A bladder, with abscesses (perhaps of tuberculous origin) in and around the prostate gland, and ulceration of the bulb of the urethra. Mr. Hunter has thus described the parts in their original state:—

"By desire of Mr. Hayes, and in presence of him and Mr. Moffet, I opened the body of a young man (*vide* his case). I took out the penis, bladder, and rectum; I then opened the bladder on the fore part, and found it very thick in its muscular coat, of a pale livid colour. The inner surface was shaggy, especially at the openings of the ureters, which were very large in their whole length: so were the pelves and kidneys. All these cavities were filled with a pale brown mucus. I then slit open the urethra through its whole length; on continuing the incision from the fore part of the bladder through the prostate gland and body of the penis, first, we found in the body of the prostate gland and membranous part, a vast number of large irregular cavities, which seemed to have been the seat of abscesses, which had burst into the urethra, so that here the urethra was very irregular or wanting, in a great many places. There had one abscess formed in the posterior part of the prostate, which had destroyed the terminations of the ducts of the testicles, and that part of the vesiculæ seminales which is next to the gland, so that the communication between these parts and the

urethra was cut off, and their communication with one another. I opened the vesiculæ seminales, and observed that their contents were the same with that which we find in common in dead bodies, and he had not been dead above eleven hours, so that no putrefaction could have taken place. The contents of the vasa deferentia and the contents of these bags had a free passage into this abscess on the inside of the urethra. About the bulbous part there was a oss of substance, which might be called an ulcer. The urethra was sound from this to the glans, excepting where the mortification had communicated with it.

"Why should there be some disease in the kidneys? for they discharged a mucus. These parts seem all to have some consent with one another."—*Hunterian MS. Dissections of Morbid Bodies*, No. 125, p. 212.

4357. A bladder, with the prostate gland, and part of the penis. The bladder is small, and its walls are rather thin; the mucous membrane about its neck is thickened and granular; the ureters are thickened and dilated. The prostate gland is a little enlarged; a roughly-walled cavity, probably that of a tuberculous abscess, in its lower and middle part, opens by a wide irregular orifice into the urethra directly behind the caput gallinaginis, and involving the ejaculatory ducts. The rest of the urethra is healthy.

Presented by Sir Everard Home.

4358. A bladder, prostate gland, and part of the penis. The muscular coat of the bladder is hypertrophied; its mucous membrane is corrugated, saccular, and in many places superficially ulcerated; in the recent state it was extremely vascular. The prostate gland is enlarged to three or four inches in diameter. Its surface is knobbed, and its interior is firm, and appears composed of many round or oval masses. Two or three small calculi are imbedded in it. Both the lateral lobes project in large round masses in the neck of the bladder; and in the situation of the middle lobe there is a separate pyriform enlargement, fixed by a narrow base. Its surface, as well as that of the most prominent part of the left lobe, is ulcerated; and parts of the substance of the gland project through the ulcerated mucous membrane, with coarsely flocculent, sloughing surfaces. Two membranous

frænа pass from the caput gallinaginis to the middle enlargement; both of them are very deep, and form nearly complete partitions in the urethra. There is a slight stricture just anterior to the caput gallinaginis, and the surface of the urethra anterior to it is uneven, as if it had healed after being torn or ulcerated.

From a nobleman who, when 68 years old, had retention of urine, which was with difficulty relieved by the catheter, and was followed by constantly frequent necessity of making water. Three years afterwards he was unable to empty his bladder completely, and had other signs of enlargement of the prostate, for which the catheter was used three times a day. At the age of 73, after some violence in introducing the instrument, the bladder became much more irritable, and his urine was found to be constantly tinged with blood. These signs increased rapidly. At the last, urine could not be retained for more than an hour without violent spasmodic contractions of the bladder, and excruciating pain, till at length the patient became comatose and died.

The case is further related by Sir E. Home, *l. c.* vol. i. p. 181; and the preparation is figured in the same vol., pl. xii.

Presented by Sir Everard Home.

Morbid Growths.

4359. A bladder, with the prostate gland, part of the urethra, &c. The cavity of the bladder is reduced to scarcely more than an inch in diameter, and had been of this size for a long time before the patient's death. Its mucous membrane is thickened, granular, and exceedingly corrugated; its other coats appear healthy. The neck of the bladder and the prostate gland are involved in a large tumour, composed of a dense, tough, and partly fibrous tissue, in which no distinction of parts can be discerned. The urethra is dilated.

The patient, a man 60 years old, had for a long time before his death laboured under pain and difficulty in making water, which at last became extreme. The expelling power of the bladder was sometimes lost, but the catheter never brought away so much as a tea-cupful of urine. He died exhausted.

From the Museum of Robert Liston, Esq.

4360. A bladder and prostate gland, with part of the rectum and other adjacent organs. The situation of the prostate gland,

and all the space between it and the neck of the bladder and the rectum, are occupied by a medullary tumour, about four inches in length and three in thickness. Its texture is soft and spongy, and in some parts is broken down; in the recent state it contained a great deal of blood. Anteriorly, the tumour has pressed upwards and forwards the bladder, prostate, and urethra; and, involving all the substance of the prostate, projects with a roughly ulcerated and fungous surface into the prostatic and membranous parts of the urethra. In front, it involves the crura penis, and surrounds the bulbous portion of the urethra, through which a portion of bougie is passed. Posteriorly, it projects against the rectum, and compresses its walls nearly into contact. Above, it is invested with the peritoneum passing from the bladder to the rectum, which is slightly thickened. The mucous membrane of the bladder is in some parts superficially ulcerated, but in other respects the bladder is healthy.

The patient was a man 45 years old. About five months before his death he received a severe blow in the perineum, two months after which he complained of difficulty in voiding his urine, and frequent desire to empty his rectum. The tumour could at this time be felt projecting into the rectum; it continued to enlarge, and produced retention of urine, with great pain in discharging the fæces. Small quantities of dark, bloody, and fœtid urine were repeatedly drawn off, and the patient died gradually exhausted.

From the Museum of Robert Liston, Esq.

Calculi in the Ducts.

4361. Section of a prostate gland, in which numerous small calculi are imbedded in sacculi formed, probably, by dilatation of the ducts.

From the Museum of Sir A. P. Cooper.

4362. A thin section of a prostate gland, dried, and exhibiting many small calculi imbedded in it.

From the Museum of Sir A. P. Cooper.

4363. A bladder, with the prostate gland, part of the penis, &c. The muscular coat of the bladder is thickened; its mucous

membrane is healthy. The prostate gland is enlarged to more than three times its ordinary dimensions, and proportionally in all its lobes. The urethra, obstructed by the projection of the middle lobe, and narrowed by the enlargement of the lateral lobes, is completely blocked by a calculus, which is lodged in its prostatic portion just over the caput gallinaginis, and appears to have been tightly grasped by the elastic substance of the prostate.

The patient died in consequence of retention of urine.

Hunterian.

4364. A bladder and prostate gland. The muscular coat of the bladder is hypertrophied; its mucous membrane is healthy in texture, but pushed outwards in many small pits. The prostate gland is increased by nearly uniform enlargement to a mass between three and four inches in diameter, and its surfaces are irregularly and superficially knobbed. On its section it appears composed of many oval and round masses, closely united together, compact, and obscurely fibrous. The part which projects into the bladder forms a thick prominent ridge all round the orifice of the urethra. The prostatic and immediately adjacent parts of the urethra are greatly increased in both depth and width, and are marked along the under surface by a kind of frænum passing from the caput gallinaginis both forwards and backwards. On the right side of this frænum is an incision made in the operation of lithotomy.

The patient was a man 76 years old. After having difficulty in making water for a year, he had retention of urine. It was relieved; but his former symptoms increased, and three years from their commencement a stone was felt. He was cut, and twenty small spherical calculi, which appeared to have lain in the prostatic portion of the urethra, were removed. He died eleven hours after the operation. Seven calculi were afterwards found in the right kidney, but none in the bladder.

The case is further detailed by Sir E. Home, *l. c.* vol. ii. p. 66; and the preparation is figured in the same vol., pl. iii. (see note to No. 4333).

Hunterian.

4365. Part of a bladder, with the prostate gland. The prostate is changed into one large sac, which was filled with calculi. This sac is nearly spherical in form, and about an inch and a half in diameter; its walls are a line in thickness, and uneven on their internal surface. It has a large, irregular, and apparently uclerated orifice of communication with the bladder, and a smaller one at its lower and posterior part (through which a quill is passed), by which it opens into the urethra. The ureters are dilated: what is preserved of the bladder appears healthy.

Presented by Sir William Lawrence.

4366. The urinary organs of a child. The bladder is contracted, its muscular coat is hypertrophied, and its mucous membrane thickened. It contains a calculus half an inch in diameter; and another calculus, of an oval form, an inch and a quarter long, and three quarters of an inch in transverse diameter, is lodged in the prostatic and immediately adjacent part of the urethra, which is dilated into a thin-walled sac around it. The rest of the urethra is healthy. The ureters, and the pelvis and infundibula of both kidneys, are exceedingly dilated.

4367. A bladder and prostate gland, from a boy. The coats of the bladder are thickened, and its muscular texture is hypertrophied. It contained a large calculus, which is preserved in the next preparation. The prostate gland is increased in size, and the prostatic portion of the urethra, by the formation of a calculus in it, is dilated into a large, smooth, oval cavity, the walls of which, formed by the extended substance of the gland, are from one to two lines in thickness.

From the Museum of Sir A. P. Cooper.

4368. The calculi mentioned in the preceding description. The upper calculus is that which lay in the dilated prostatic portion of the urethra; it has almost exactly the form and size of the healthy prostate gland of an adult.

From the Museum of Sir A. P. Cooper.

4369. A bladder and part of a penis. From the bladder a cavity is continued, becoming gradually smaller, to the membranous part of the urethra, into which it opens by an aperture of the ordinary diameter of that canal. The muscular coat of the bladder is not traceable beyond its usual boundary, at the anterior part of the vesiculæ seminales. The ejaculatory ducts open into the upper and posterior part of the cavity between the bladder and membranous part of the urethra, immediately in front of the boundary of the muscular wall of the bladder ; they are indicated by bristles. That part of the cavity which is anterior to the ducts, and which occupies the usual position of the prostate gland, has thin tough walls, apparently lined with mucous membrane. The bladder is very small. Its muscular coat is somewhat hypertrophied, and its mucous membrane is thickened, indurated, and granulated on its inner surface. The vesiculæ seminales are healthy, but one of their ducts is dilated into a small round sac. One of Cowper's glands is dissected out, and appears healthy. A bougie is placed in the urethra, which is of its ordinary size. It is uncertain whether the absence of the prostate gland was congenital or the consequence of disease : possibly there was a large calculus lodged in the prostatic part of the urethra, gradually dilating it, and producing absorption of the substance of the gland.

The patient was 68 years old. He had abundant muco-purulent discharge, and for the last two or three years of his life suffered great misery. The specimen is engraved in Mr. Crosse's 'Treatise on the.....Urinary Calculus,' pl. ix. fig. 1.

Presented by John Greene Crosse, Esq.

Specimens of Injuries and Diseases of the Prostate Gland in other parts of the Museum may be found by reference to the Series of General Pathology, and of the Kidney, Bladder, and Urethra.

Series LII. INJURIES AND DISEASES OF THE URETHRA.

Stricture: 4370 to 4419.
- Accidental complications: 4382 to 4386.
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- Effects of the Treatment of Strictures: 4406 to 4419.
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  - External Urethrotomy: 4419.

Ulceration of the Urethra unconnected with Stricture: 4420, 4421.
Morbid growths: 4422 to 4425.
- Warty and polypoid: 4422, 4423.
- Vascular papillary growths: 4424, 4425.

Calculi impacted in Urethra: 4426, 4382 to 4385.

Stricture.*

4370. Part of a penis, exhibiting a slight annular stricture of the urethra, two inches from its external orifice. The narrowing

* "The most frequent disease in the urethra is an obstruction to the passage of the urine; it happens both in young and old, although most frequently in the latter. Before I begin to treat of this subject, I shall, for the better understanding of the whole, make some observations on the uses of this passage in its natural state.

"It may, first, be observed that the urethra in man is employed for two purposes. On this occasion I may be allowed to make the following general remark—that nature has not been able to apply any one part to two purposes with advantage, as might be illustrated in many instances in different animals. The animals whose legs are contrived both for swimming and walking are not good at either, as seals, otters, ducks, and geese; the animals, also, whose legs are intended both for walking and flying are but badly formed for either, as the bat. The same observations are applicable to fish, for the flying-fish

of the passage is produced by a mere linear constriction, beneath which there appear some fine transversely undu-

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neither swims nor flies well; and whenever parts intended for such double functions are diseased, both are performed imperfectly. This is immediately applicable to the urethra, for it is intended as a canal or passage both for the urine and the semen. The urine requires the simplest of all canals, and of no greater length than the distance from the bladder to the external surface, as we find the urethra in women, birds, the amphibia, and fish; but the passage for the semen in the quadruped requires to be a complicated canal, and of a length capable of conveying the semen to the female, provided with many additional and necessary parts, as the corpus spongiosum urethræ, musculi accelatores, Cowper's glands, prostate gland, and vesiculæ seminales. As all these parts are to serve the purposes of generation, and as the diseases of this canal are principally seated in them, we at once see how much the urinary organs must suffer from a connection with parts so numerous and so liable to disease; and what adds to the evil is, that the actions of the urinary organs are constant, and absolutely necessary for the well-being of the machine, whereas the evacuation of the semen takes place only during a certain portion of life, is then only occasional, and never essentially necessary to the existence of the individual. The force of this observation is at once seen by making the comparison between the inconveniences that attend the expulsion of the urine in the male and in the female.

"The canal of the urethra is liable to such diseases as are capable of preventing in some degree the passage of the urine through it; and in some of these diseases the passage at last becomes completely obstructed. In all cases there is a diminution of the size of the canal, but in different ways. There are five modes of obstruction, four of which are diseases of the passage itself; the fifth is a consequence of the diseases of other parts. Three of the former are a lessening of the diameter of the passage; the fourth an excrescence in the passage; the fifth arises from the sides being compressed, which may be done either by exterior contiguous swellings or by a swelling of the prostate gland[1].

"I. *Of Strictures.*

"The three first I shall now consider, of which the first is the true permanent stricture arising from an alteration in the structure of a part of the urethra. The second is a mixed case, composed of a permanent stricture and spasm. The third is the true spasmodic stricture."—*Hunter, "On the Venereal Disease," Works,* vol. ii. p. 227.

[1] "Many other kinds of obstruction are described by authors, none of which I have ever seen; and as probably I have opened more urethras after death, where there was an obstruction of the passage, than all the authors who have written on this subject, I am inclined to believe that they wrote from imagination only."—*Quarto Edition.*

lating bands of glistening fibrous tissue. The submucous tissue around the stricture appears indurated and intimately united to the tissue of the corpus spongiosum. Immediately before and behind the stricture, the urethra has its natural diameter.

The preparation is engraved in Hunter's works, pl. ix. fig. 1, and may be one of those referred to by Mr. Hunter, where he says (vol. ii. p. 230):—"The disease generally occupies no great length of the passage; at least, in most of the cases that I have seen, it [the stricture] extended no further in breadth than if the part had been surrounded with a piece of packthread, and in many it had a good deal of that appearance."

Hunterian.

4371. A bladder and penis, laid open from behind. There is a very close annular stricture of the urethra, two inches from its external orifice. The narrowing of the passage, as in the specimen last described, takes place almost suddenly; and the urethra on each side of it soon regains its natural diameter. The tissue of the strictured part is compact and hard, as if a cord of tough, fibrous, glistening tissue had been imbedded in the wall of the urethra; but the parts near it appear healthy. Near the stricture, on both sides of it, the orifices of the lacunæ on the upper wall of the urethra are enlarged. The prostatic portion of the urethra is dilated. The prostate gland is rather enlarged; the bladder is small; its muscular coat hypertrophied, its mucous membrane deeply wrinkled.

From an old man who was admitted into the Edinburgh Royal Infirmary, moribund, with retention of urine. He was relieved by the introduction of a small catheter, but he continued sinking.

From the Museum of Robert Liston, Esq.

4372. A bladder and penis, laid open from behind. About two inches from the external orifice is a close annular stricture, not longer than if occasioned by a fine cord tied tightly round the urethra. The constricted part has not been laid open by the incision, and has a bristle passed through it. Behind it the canal is enlarged, and its lining membrane is thickened, softened, and, in some places, rough and shreddy.

There is indication of a second stricture, about two and a half inches behind the first. The prostate is enlarged, and the walls of the bladder are of abnormal thickness.

Presented by Sir Stephen L. Hammick.

4373. Part of a penis, in which is a close stricture of the urethra, apparently formed by the thickening and contraction of the submucous tissue, about an inch in extent, and commencing three quarters of an inch behind the external orifice. There is a fistulous opening leading from near the middle of the constricted part to the inferior surface of the penis.

From a man, 49 years of age, known to have suffered long from stricture. For five years before his death the urine was voided in a small stream, and latterly only in drops.

Presented by Sir Stephen L. Hammick.

4374. Part of a penis, with the prostate gland, neck of the bladder, and other adjacent parts. Two inches and a half anterior to the prostate, there is a short close stricture of the urethra, apparently formed by the thickening and contraction of a small portion of the whole circumference of its walls. The stricture resembles that last described, except in that it is closer and less sudden, for the urethra in front of it gradually becomes narrower as it approaches. Behind the stricture the whole of the urethra is dilated, and especially its prostatic portion, which forms a deep and wide hollow, with the caput gallinaginis raised very prominently at the bottom. The prostate gland is enlarged. The mucous membrane of the bladder is depressed in many small pits in the spaces between its muscular fasciculi.

From the Museum of Sir A. P. Cooper.

4375. A bladder and penis. About half an inch anterior to the bulb of the urethra is a narrow stricture, capable of admitting a bristle only, and about three tenths of an inch in length. The constriction is caused by dense fibrous tissue, arranged in bands intersecting each other in various directions beneath

the mucous membrane. The urethra behind the stricture is somewhat dilated, and was more vascular than in health. The bladder, which has been everted, is thickened and fasciculated. Bristles are placed in openings of the ureters and ejaculatory ducts.

From a cab-driver, 37 years of age. Eight or nine years before his death, a pair of horses, passing down a passage in which he was standing, forced him violently against the wall, immediately causing great pain in the lower part of the belly. He was unable to work for three months, but had no medical attendance. Shortly afterwards he felt much difficulty in passing urine, and subsequently occasionally suffered from retention, especially when exposed to wet and cold. During the last twelve months he had been much out of health, complaining of pain in the head, giddiness, pains in the loins &c., and latterly became unable to retain his urine. On the day preceding his death he was seized with a fit, became convulsed and delirious, and finally comatose. The treatment, which was mainly directed to the brain, appeared to be of no service; and although the urine was continually passing from him, the condition of the bladder was not suspected.

On post-mortem examination, it was found that the morbid appearances were chiefly confined to the urinary organs. Each kidney, but especially the right, presented the appearance of a greatly distended sac, more than double the size of the healthy organ. The pelves were enormously dilated, and, on being punctured, were found to contain (by measure) 16 oz. of urine. But a very small proportion of secreting substance remained, in the form of a thin layer surrounding the dilated calices. Both ureters were distended with urine, and equal in calibre to a man's fore finger. The bladder projected above the pubic symphysis, and contained 30 oz. of urine. The condition of the urethra is seen in the preparation. The cause of death was undoubtedly the circulation of urea in the blood, due to incompetency in the kidneys to perform their depurative function.

Additional particulars of the case, and a drawing of the recent specimen, will be found in Mr. H. Thompson's Jacksonian Prize Dissertation on "Stricture of the Urethra" (1852), MS. Roy. Coll. Surg. Library.

Presented by Sir Henry Thompson.

4376. Parts of a bladder and penis. There is a very close stricture of the urethra at the anterior part of its bulbous portion; indeed, the passage appears to be completely closed. The urethra in front of the stricture becomes gradually wider; it has here the shape of a long narrow funnel; but its lining membrane is healthy, and not

puckered. At, and adjacent to, the stricture, the tissues of the urethra and those around it appear consolidated and hardened. Behind the stricture the urethra again widens, but more rapidly than it does in front of it : it soon attains nearly double its natural diameter, and its surface is strongly fasciculated*. The caput gallinaginis is effaced. A part of the urethra in the spongy portion is superficially ulcerated. The muscular coat of the bladder is hypertrophied, and its mucous membrane ulcerated. *Hunterian.*

4377. Portions of three bougies, near the points of which there are circular impressions, produced by their being passed into annular strictures of the urethra. *Hunterian.*

4378. Portions of three bougies, with similar impressions at a distance from their points. *Hunterian.*

4379. Part of a penis, with a stricture at the bulbous and adjacent parts of the urethra. The canal is "irregularly contracted for above an inch in length, owing to its coats or internal membrane being irregularly thickened and forming a winding canal." (*Hunter*, "*On the Venereal Disease*," *Works*, vol. ii. p. 230.) *Hunterian.*

4380. A bladder and penis, laid open from the front and right side. Nearly the whole length of the urethra is diseased ; its mucous membrane is thickened, and in many places contracted and puckered, with shining, wavy, fibrous bands variously arranged in or beneath it, looking like the surface

* "*Of the Enlargement of the Urethra.*

"The urethra beyond the stricture I have observed is enlarged, because it is more passive than the bladder, and yields to the pressure of the urine. It is naturally passive while the bladder is acting, by which means it becomes distended in proportion to the force with which the bladder acts, and the resistance of the stricture. Its internal surface often becomes more irregular and fasciculated. It is also more irritable, the distention becoming often the immediate cause of spasms in that part; and these spasms are most probably excited with a view to counteract the effort produced by the action of the bladder."—*Hunter*, "*On the Venereal Disease*," *Works*, vol. ii. p. 257.

of a cicatrix after superficial ulceration. Bristles are introduced into four places, at which the canal of the urethra is more especially narrowed. At the junction of the membranous and prostatic portions, its walls are deeply ulcerated. The texture of the corpus spongiosum is indurated, and like fibrous tissue. The mucous membrane of the bladder is corrugated and granular; its muscular coat is hypertrophied. *Hunterian.*

4381. A penis, having the urethra laid open from below. There are two narrow and very close strictures; one about an inch and a half, the other four inches, from the external orifice of the urethra. At these parts the canal of the urethra, which in both instances is gradually and regularly narrowed as it approaches the stricture, is not laid open. The whole of the rest of the surface of the urethra is uneven and corrugated, as if by numerous little cord-like thickenings of its walls. It presents, also, a multitude of small orifices and shallow depressions, some of which are probably dilated lacunæ. Behind the second stricture the canal is enlarged and strongly fasciculated. The caput gallinaginis is effaced. At the left side of the membranous portion there is a small cavity, the remains, probably, of an abscess in the adjacent tissue; it does not communicate with the urethra.

The patient was 36 years old. He had had signs of stricture for six years before his death. Shortly before he died he had ague; and when this ceased, the signs of stricture and of irritability of the bladder became much more severe than they had ever before been.

From the Museum of John Howship, Esq.

Accidental Complications of Stricture.

4382. The bladder and penis of a boy, 7 years of age, laid open laterally. There is an annular stricture of the urethra in the bulbous portion. It appears to be formed by a broad fold of mucous membrane, about half a line in depth: there is no apparent change of texture. Behind the stricture the urethra is generally dilated, and a small calculus is lodged

in it, which could not, without dilatation, have passed through the strictured part. Immediately in front of the stricture is a deep, circular, smooth-walled pit, made by the points of bougies. The muscular coat of the bladder is hypertrophied. *Hunterian.*

The following account of the case, which was taken from Mr. Hunter's record of it, is inserted in Sir E. Home's 'Practical Observations on the Treatment of Strictures in the Urethra,' vol. iii. p. 55 (London, 1821):—

"A. B., aged 6 years, after a slight illness, had a difficulty in making water, and passed a very small quantity at a time; this went off in about ten days; and in the course of nine months he had three or four returns of the same complaint, the stream dividing, and then scattering. Every return was more violent and of longer continuance; at last these symptoms became constant. At the end of eleven weeks there was an endeavour to make water six or seven times in an hour; he made very little at a time; had great pain and heat in the urethra; but in other respects he continued well, if we except a degree of fever, and loss of appetite.

"I saw him September 10th, 1785. A very small bougie passed, with difficulty, through a stricture in the membranous [?] part of the urethra; it gave little pain after it was introduced, and was allowed to remain a quarter of an hour. The impression of the stricture on the bougie was very deep. Next day it was passed again, when he made water better; but this brought on a little fever, which prevented its being persevered in for two or three days, and then went off; his urine came now in a continued stream, and he was much relieved. The bougie now passed more readily, and the stricture was much dilated; the passage, however, very soon became again contracted, and, from want of proper assistance, the boy died in six months.

"Upon an examination of the body after death, the part at the stricture was found to be narrower than the general canal, and just before it there was a small sac, made by the point of a bougie, in the side of the urethra, but not going on to any extent. A small calculus lay behind the stricture, and the passage leading to the bladder was a good deal wider than common; the bladder itself was very considerably thickened in its coats.

"In this case, if the armed bougie had been used, the boy would have been immediately relieved, and in a very short time cured."

4383. Portions of two bougies, with irregular impressions produced by a stricture in the urethra of a boy 7 years of age; probably the boy whose case is described above.

Hunterian.

4384. "The penis and bladder of a gentleman who died of mortification of his bladder, in consequence of stricture, assisted by a small stone," which lies immediately behind the stricture. "In the preparation are seen the thickened coats and fasciculated inner surface of the bladder; the small stone, which acted as a valve upon the stricture; and a canula is introduced from the glans down to the stricture, showing the practicability of destroying the stricture with caustic." (*Hunterian MS. Catalogue.*) The stricture is in the bulbous portion of the urethra: it is an annular one, with thickening and induration of the submucous tissue, and the canal is reduced to half a line in diameter.

The preparation is engraved in the 'Treatise on the Venereal Disease,' and in Hunter's Works, pl. xii.

Hunterian.

4385. A bladder and penis, with the ureters, kidneys, &c. There is a close annular stricture in the bulbous portion of the urethra, by which the canal is drawn towards the right side, and is for a short distance reduced to a line in diameter. A bristle is passed through it. Immediately in front of the stricture is a small, round, and deep depression in the lower wall of the urethra; produced, probably, like the similar depression in No. 4382, by the use of instruments; and close behind the stricture an oval rough calculus, measuring ten lines by six, is impacted in the membranous and prostatic portions of the urethra, which are dilated and ulcerated around it. The prostate gland is healthy. The bladder is large, its muscular coat is hypertrophied, its mucous membrane thickened, dark with blood, and in parts covered with lymph, as if just before death it had been acutely inflamed. The ureters and pelvis are very much dilated; and the substance of both kidneys is atrophied.

The patient, a man 36 years old, and very intemperate, had stricture for six or seven years, and died with constant dripping of muco-purulent and fœtid urine, great pain in the loins, and extreme emaciation.

The specimen is described and represented in Mr. Crosse's 'Treatise on the.... Urinary Calculus,' pl. x. and pp. 30, 113.

Presented by John Greene Crosse, Esq.

4386. A penis, with part of a bladder, the urethra being laid open from behind. There is a very narrow stricture of the urethra about two inches from its external orifice, and a second in the bulbo-membranous portion. They are both formed by irregular thickening, wrinkling, and contraction of the walls: the intermediate part of the canal is, also, indurated and wrinkled on its inner surface; and the tissues around it appear consolidated. The large clot of blood, which is suspended separately, was found in the dilated part of the urethra behind the posterior stricture, and had caused fatal retention of urine by completely obstructing the canal.

Presented by Sir Everard Home.

Consequences of Stricture.*

4387. "Ulceration from a stricture in the beginning of the membranous part of the urethra, from which the urine got into

* "Strictures in the urethra produce almost constantly diseases in the parts beyond them; that is, in the part of the urethra between the stricture and the bladder. They bring on in most cases a gleet, as has been described, and often a considerable distention of this part of the canal; also inflammation and ulceration, and in consequence of them diseases in the surrounding parts, as in Cowper's glands, the prostate, and the surrounding cellular membrane, forming abscesses there, and at last ulceration, for the purpose of making a new passage for the urine. The bladder is also often affected, and sometimes the ureters, with the pelvis of the kidneys, and in some cases the kidneys themselves. All these are effects of every permanent obstruction to the urine; some of them are methods which nature takes to relieve the parts from the immediate complaints; such are the increase of the urethra beyond the stricture, and the enlargement of the ureters and pelvis of the kidneys, which are only to be considered as the parts accommodating themselves to the immediate consequence of the obstruction, which is the accumulation of urine. Of these complaints I shall take notice in their order.

"II. *Of the Formation of a New Passage for the Urine.*

"When the methods recommended above for the removal of stricture have either not been attempted, or have not succeeded, nature endeavours to relieve herself by making a new passage for the urine, which, although it often prevents immediate death, yet, if not remedied, is productive of much inconvenience and misery to the patient through life. The mode by which nature endeavours to procure relief is by ulceration on the inside of that part of the urethra which is enlarged and within the stricture. The ulceration commonly begins near or close to the stricture, although the stricture may be at a consi-

the cellular membrane and killed the patient. The right ureter is much distended [a small portion only of it is left, and presents the appearances of an oval pouch]. From St. George's Hospital." (*Hunterian MS. Catalogue.*) The

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derable distance from the bladder; therefore we must suppose that there is some circumstance besides the distention of the urethra by the urine which determines the ulceration to a particular part. This circumstance most probably arises immediately out of its vicinity to the stricture, and may be called contiguous sympathy. The stricture is often included in the ulceration, by which it is removed, the disease cured, and a stop sometimes put to the further ulceration; but unluckily this is not always the case. We may observe that this ulceration is always on the side next to the external surface, as is common in abscesses.

"As this ulceration does not arise from preceding inflammation, and as it cannot be said that the urine acts exactly as an extraneous body, because it is in its natural passage, we find that there is but very little inflammation of the adhesive kind attending these ulcerations. We must allow, however, that the urine produces the ulcerative disposition here, like matter on the inside of an abscess, although not so readily.

"Whenever, therefore, the internal membrane and substance of the urethra are removed by absorption, the water readily gets into the loose cellular membrane of the scrotum and penis, and diffuses itself all over those parts, not having been previously united by the adhesive inflammation; and as the urine has considerable irritating powers when applied to the common cellular membrane, the parts inflame and swell. The presence of the urine prevents the adhesive inflammation from taking place; it becomes the cause of suppuration wherever it is diffused; and the irritation is often so great, more especially in cases where the urine has been allowed to become very stale, that it produces mortification, first in all the cellular membrane, and afterwards in several parts of the skin; all of which, if the patient lives, will slough away, making a free communication between the urethra and external surface and producing fistulæ in perinæo.

"We may observe, however, that the want of the adhesive inflammation in these ulcerations appears to be peculiar to that part of the urethra which lies between the membranous part and the glans penis; for we find from experience that when this process takes place further back, as in the prostate gland, a circumscribed abscess is generally formed. This may arise from the difference in texture of the cellular membrane of the parts, the first admitting of the diffusion of the urine very readily from the looseness of its texture, the other producing adhesions before the urine is allowed to pass, which adhesions afterwards exclude it.

"It sometimes happens that the urine gets into the spongy substance of the body of the urethra, and is immediately diffused through the whole, even to the glans penis, producing mortification of all these parts, as I have more than once seen."—*Hunter*, "*On the Venereal Disease*," *Works*, vol. ii. p. 258.

stricture is included in the ulceration, and has been removed ; so that the urethra where it was seated appears as large as elsewhere. *Hunterian.*

4388. A prostate gland, and part of a penis, with the urethra laid open from above. There was a stricture in the bulbo-membranous portion of the urethra, which was completely removed by ulceration spreading irregularly through the contracted tissues and the immediately adjacent parts. The urethra at the seat of stricture has regained its natural size. *Presented by Sir Everard Home.*

4389. Parts of a bladder and penis, laid open from the front. There is a stricture of the urethra near the anterior part of the bulbous portion ; its situation is indicated by two portions of bristle stuck vertically into the tissues at its sides, and by an appearance of undulating transverse fibres between them. All that part of the urethra which is between the stricture and the prostate gland is involved in an irregular ulceration, which has formed a cavity like that of an abscess, but does not open externally by any fistulous passage. There are similar ulcerated cavities within and exterior to the prostate; and the interior of the prostatic part of the urethra, and of the mucous membrane of the bladder, is superficially ulcerated. *Hunterian.*

4390. A bladder and urethra, laid open from the front. The bladder is contracted, its muscular coat is hypertrophied, its mucous membrane is everywhere superficially ulcerated and covered with patches of lymph and calculous matter. The mucous membrane of the prostatic portion, and of the anterior part of the spongy portion, of the urethra is similarly diseased ; the membranous portion and the spongy portion, for two inches anterior to the bulb, have their walls thickened, indurated, covered with lymph, and so irregular that the canal can hardly be traced. By the side of this part bougies are placed in two fistulæ or false passages, leading very obliquely towards the perinæum. *Hunterian.*

4391. A bladder, and the greater part of the penis. Part of the urethra, in front of a stricture, is laid open from the front; a large white bougie indicates the rest of its course through the stricture and behind it. A small dark bougie is placed in a false passage, which extends for nearly an inch in the tissue above the urethra. Extensive ulceration has destroyed the greater part of the wall of the bulbous and membranous portions of the urethra. Its canal thus opens widely into a large ulcerated, but circumscribed abscess, which must have formed a considerable tumour in the perinæum. The prostatic portion of the urethra is irregularly dilated. The bladder is contracted, and its coats are thickened and indurated.

Part of the preparation is engraved and described in Hunter's Works, pl. x., as an example of a false passage.

Hunterian.

4392. Part of a bladder, with the penis, scrotum, and adjacent integuments. Part of the urethra has been exposed from above, and a bougie is passed through its whole length. All the membranous, and a great part of the spongy, portions of the urethra, are involved in deep and irregular ulceration, which, just in front of the membranous portion, has formed a large aperture, communicating with a cavity in the tissues of the perineum. There is a small opening behind the scrotum near the raphé, which leads straight and at once into the cavity. The bladder is very small, and its coats are thickened; but its lining membrane is healthy. There is no trace of the stricture of which it is probable these changes were the consequence; doubtless, as in some of the foregoing cases, it was removed by the ulceration. *Hunterian.*

4393. A bladder and penis. The bladder and posterior half of the urethra are laid open from above, the anterior half of the urethra from below. The interior of the bladder and urethra are throughout in a state of ulceration and sloughing, long shreds of rotten flocculent tissue hanging into them. A bougie, introduced into the anterior part of the

urethra, shows that a portion of its inferior wall, about three inches from its orifice, has been removed by ulceration; and it is probable that through this aperture "the urine got into the spongy substance of the urethra, and was immediately diffused through the whole, even to the glans penis, producing mortification of all those parts" (see the quotation below). The coats of the bladder are very much thickened. *Hunterian.*

"III. *Of Inflammation in the Parts surrounding the Urethra.*

"Inflammation arising from distension and irritation of the urethra often extends considerably further than the surface of that canal, for the surrounding parts become the seat of inflammation, the situation of which will commonly be according to the situation of the stricture producing the distension. Thus we find the inflammation affecting the prostate gland, the membranous part of the urethra, the bulb, and probably Cowper's glands, with other parts of the urethra between the bulb and the glans. But inflammation in the surrounding parts of the urethra is not always a consequence of distension or stricture; it arises often from other irritations in this canal, such as violent gonorrhœas, and very irritating injections. When inflammation attacks these parts it is of the true adhesive kind; and therefore when suppuration takes place an abscess must be formed, unless the inflammation be resolved. The matter, according to a general principle in abscesses, points externally; when the seat of the abscess is either in the prostate gland, membranous part, or in the bulb, the matter will point in the perinæum; or the abscess may be formed forwards in the scrotum, or before it, according to the situation of the stricture.

"The seat of these abscesses is generally so near the inner surface of the urethra that the partition between them often gives way, and they open internally, as frequently happens in an abscess by the side of the rectum, so that the matter is at once discharged by the urethra, or carried back into the bladder to be discharged with the urine. When the internal opening only takes place, I believe it is owing to the ulceration on the inner surface of the urethra, as has been already described; and in these cases also the stricture is sometimes involved in the abscess and ulceration, by which means the water will find a free passage forwards; but the urine has also a free passage into the abscess, which we may suppose retards its healing, and often becomes the cause of its opening externally; but here, from the adhesive inflammation having taken place, the urine cannot insinuate itself into the surrounding cellular membrane, so as to produce the consequences mentioned in treating of the way in which nature endeavours to relieve herself. In such cases we find, that upon pressing the abscess externally, the matter is squeezed into the urethra, and so out by the glans. It sometimes happens that a catheter can be introduced into the opening of such an abscess, by which means it can be washed by injecting something through

the catheter, whereby probably it may be sooner healed. It more frequently happens that such abscesses open both internally and externally, discharging themselves both ways.

"The ulcerations and suppurations, of both kinds, are to be considered as efforts of nature, or to speak more physiologically, as a natural consequence arising from such irritation, by which, as the urine cannot pass by the old passage, a new one is made to prevent further mischief.

"Both these diseases, when they open externally, if not properly treated, often lay the foundation for the complaint commonly called the fistula in perinæo; which is owing to the bottom of the abscess having a less disposition to heal than the external parts."—*Hunter: On the Venereal Disease; Works,* vol. ii. p. 264.

4394. A bladder, penis, and adjacent parts. The cavity of the bladder and the urethra are exposed from the right side. There is a short, but narrow, stricture of the urethra, half an inch anterior to the bulb. A bristle is passed through it. Abscesses have formed within and adjacent to the prostate gland and vesiculæ seminales; their cavities are laid open, and communicate with one another. None of these abscesses are shown to have opened either externally or into the urethra. The muscular coat of the bladder is much hypertrophied; its mucous membrane is healthy: the left ureter opens into the bladder on a nipple-like process.

From the Museum of George Langstaff, Esq.

4395. A bladder, and part of a penis, laid open from the front. There is a short, but very narrow stricture, or closure, of the urethra, at its bulbous portion; for a quarter of an inch the course of the canal cannot be discerned. Behind the stricture the urethra is very much dilated, and its mucous membrane is ulcerated, granular, and indurated. Many parts of the mucous membrane of the bladder also are in the same state, especially those parts of it which, in the contracted condition of the organ, lay on the surface of the wrinkles exposed to the urine. Immediately below and in front of the stricture there is a large cavity, like that of an abscess, in the tissues around the bulb and corpus spongiosum. There is no apparent communication between this abscess and the canal of the urethra.

4396. A bladder, and part of a penis, laid open from the front. There is a small abscess in the substance of the bulb, communicating by a wide oval orifice with the urethra. Anterior to this orifice, which is in the situation of a former stricture, the canal of the urethra is contracted, and its mucous membrane is thickened and wrinkled; still more anteriorly it is ulcerated. A patch of lymph on the posterior part of the neck of the bladder marks the spot on which a catheter rested for some days. The muscular coat of the bladder is much hypertrophied; its mucous membrane is deeply wrinkled.

The patient, an old man, had a bad stricture. A catheter was introduced with difficulty, and was retained in the bladder. Some progress had been made towards cure, when he was attacked with "typhus fever" and died.

From the Museum of Robert Liston, Esq.

4397. Part of a bladder, with the penis, scrotum, perineum, and adjacent integuments. The bladder and the posterior half of the urethra are laid open from the front. All the membranous portion of the urethra, and the first inch of the bulbous and spongy portions, are reduced to about a line in diameter by irregular superficial thickening and contraction of their walls. Just in front of the stricture a portion of bougie indicates the course of a false passage, which has been made into the tissue of the perinæum, and, in consequence of which, it appears not improbable that a large and irregular abscess formed in the perinæum and the adjacent parts. Bristles are passed into a great number of openings in the skin of the scrotum, perinæum, and right buttock, which lead by canals, various in direction and in length, into the cavity of the abscess. But there is no appearance that the abscesses ever opened, even by the false passage, into the canal of the urethra. *Hunterian.*

"It often happens that the new passages for the urine do not heal, on account of the stricture not being removed; and even when the stricture is removed they frequently have no disposition to heal. In both cases they become fistulous, and produce fresh inflammations and suppurations, which

do not always open into the old sore, but make new openings externally. These sometimes arise from the first external openings not being sufficiently large, so that they heal up long before the bottom, or long before the diseased urethra; and even when the external opening has been made as large as possible, it will often heal sooner than the bottom, and become fistulous at last."—*Hunter: On the Venereal Disease; Works,* vol. ii. p. 268.

4398. A penis, and part of a bladder, laid open from behind. The whole of the membranous part of the urethra is closely contracted, but the surface of its mucous membrane is nearly smooth. A bristle is placed in a small fistulous canal, leading straightway from the bulbo-membranous portion of the urethra through the integuments of the perinæum, which, around the orifice of the fistula, are deeply puckered-in like the surface of a cicatrix. The prostatic portion of the urethra and the ureters are very much dilated; the bladder, so far as it is preserved, appears healthy. *Hunterian.*

4399. A penis, with part of the prostate gland. The anterior half of the urethra is exposed from below; the prostatic and membranous portions from above. There is a narrow annular stricture of the urethra, two inches and a half from the external orifice. The surface of the membranous portion is contracted and seamed as if cicatrized, and there are several small fistulous apertures in it, which lead into canals in the corpus cavernosum and the indurated tissues of the perinæum. Bristles are placed in all these. *Hunterian.*

4400. A bladder, penis, scrotum, and other adjacent parts. The urethra, and a fistulous passage leading from it to the perinæum, are laid open from the left side. There is a very narrow annular stricture, nearly closing the bulbous portion of the urethra; a part of its lining membrane is ulcerated, and a white bristle is passed through the most contracted portion. Behind the stricture the membranous and prostatic portions of the urethra are dilated, and the lining membrane of the membranous portion is thickened and puckered. An inch behind the stricture there is a small aperture in the lower wall of the urethra, through

which a black bristle is passed; it is the orifice of the small fistulous canal already mentioned, which extends with a tortuous course, and gradually enlarging, beneath the integuments; and, after branching, opens in the middle of the perinæum, and in the posterior part of the scrotum. The lining of the fistula is rough, as if covered with lymph or granulations. The muscular coat of the bladder is exceedingly hypertrophied, and its fasciculi project in strong columns beneath the thickened mucous membrane.

Hunterian.

The preparation is represented in Baillie's 'Morbid Anatomy,' fasc. viii. pl. v. p. 2.

4401. A bladder, penis, scrotum, and perinæum. The bladder and part of the urethra are laid open from the left side, and a bougie is placed in their whole course. The membranous portion of the urethra, and the anterior half of the prostate gland, are involved in a deep and irregular ulceration, which has formed in their place a large oval cavity, like that of an abscess. Portions of whalebone are passed into several apertures in the scrotum and perinæum, which lead into fistulous canals communicating indirectly with the cavity above described. The bladder is very small, and its coats are thickened. One of the testicles is exposed; it is enlarged, and the cavity of the tunica vaginalis is obliterated by adhesion of its opposite surfaces. *Hunterian.*

4402. A bladder and penis, laid open from below and from the right side. The urethra, by irregular thickening of its walls, is contracted through its whole length, except in the membranous and prostatic portions, and just behind its external orifice; in these situations, more especially in the latter, it is dilated. In the membranous portion the wall of the urethra is extensively destroyed by ulceration. Two large openings in its lower part lead into long and branching fistulous passages in the tissues of the perinæum, which are all thickened and consolidated around the urethra. The walls of the bladder are thickened and indurated. Its

mucous membrane, especially in its upper part, is deeply ulcerated, and covered with irregular growths, like rough masses of fibrine, coated in some places with calculous matter. *Presented by Sir William Blizard.*

4403. A bladder, with a portion of the penis and scrotum, and the adjacent parts, exposed by a lateral section on the right side. There is a long and close stricture within and in front of the membranous part of the urethra, through which a small piece of whalebone is passed. Immediately behind it there is an orifice in the lower wall of the urethra, which is indicated by a large piece of whalebone placed in it, and which leads into the cavity of a smooth and hard-walled abscess, occupying a great part of the perinæum, and opening near the anus. The muscular coat of the bladder is thickened and fasciculated; its mucous membrane is healthy.

From a middle-aged man, whose history was unknown.

From the Museum of Robert Liston, Esq.

4404. Part of a penis, with the neck of the bladder, prostate gland, and other adjacent parts. The urethra is laid open from the front. Anterior to its membranous portion, the urethra is irregularly narrowed and superficially ulcerated: portions of whalebone are passed through two ulcerated apertures, with smooth healed borders, in its lower wall. These apertures lead into long, oblique, fistulous passages in the perinæum. One of the passages opens externally through the skin, just behind the scrotum, a part of which is preserved; and another larger aperture in the adjacent skin leads into a long fistulous canal below the urethra, but apparently not opening either into it or into either of the adjacent passages. Below the prostate gland, and imbedded in its substance, there are two small, spherical, smooth-walled cysts. *From the Museum of Sir A. P. Cooper.*

4405. Parts of a bladder and penis, the greater portion of one side of the penis being removed for the exposure of the

urethra. A short fistulous passage leads from the urethra through the integument, by the side of the frænum of the prepuce ; it is about a line in diameter, and its edges are smoothly rounded, as if it had long existed. The urethra anterior to the aperture, and for nearly two inches behind it, is irregularly contracted, and its surface is fasciculated, as if it had cicatrized. Behind the contraction the urethra is dilated as far as the bulbo-membranous portion, where there is a second slight contraction, and a short false passage, in which a bougie is placed. The bladder is contracted ; its muscular coat is exceedingly hypertrophied ; its mucous membrane is thickened, dark, and granulated on its inner surface ; and on the right side, near the neck of the bladder, a kind of polypous growth, consisting of groups of small, oval, flattened bodies, is attached to the mucous membrane of the bladder. *Hunterian.*

Effects of the Treatment of Strictures.

4406. A piece of bougie, on which there is a tubular portion of the lining membrane of an urethra, which sloughed, and was discharged after the application of nitrate of silver.

4407. Part of a bladder and a penis. The urethra has been laid open from the front to show its condition after the cure of two strictures in its bulbous portion. Its canal at this part is slightly wrinkled on its inner surface, and appears indurated ; but it is as large as at the adjacent parts.

4408. A similar preparation. The strictures had been treated with caustic.

4409. A similar preparation, in which a single stricture of the urethra was believed to have been cured by the application of caustic. There is here even less variation from the natural state of the parts than there is in either of the

preceding; but the part is said to have appeared, when first examined, "more ligamentous" than the rest of the urethra. *The four preceding specimens were presented by Sir Everard Home.*

4410. A bladder, prostate gland, and urethra. In its prostatic portion, and just in front of its vesical orifice, the urethra (as it were) branches, and one branch of it is directed straight backwards, in a short, but wide, smooth-walled cul-de-sac, which appears to pass into a space in which the substance of the prostate is deficient. The other branch opens, as the healthy urethra does, into the bladder. There is no caput gallinaginis, but one of the ejaculatory ducts, and several prostatic ducts, can be seen opening at the bottom of the cul-de-sac. There is no appearance of any morbid change of texture in the urethra, or in any of the parts preserved; and the patient died of disease unconnected with the urinary organs. It is possible that this peculiarity of form was congenital; but it is more probable that it was produced by the use of bougies or catheters, the points of which, instead of being passed into the bladder, were pressed into the substance of the prostate, until, by its absorption, a deep fossa was formed in it, like those formed in the walls of the urethra in Nos. 4382 and 4385, and in the bulb in the next following specimen.

The preparation is engraved in Sir E. Home's 'Observations on the Prostate,' vol. ii. pl. viii.

Presented by Sir B. C. Brodie.

4411. A prostate gland, and part of a penis, the urethra being laid open from above. Nearly all the membranous portion of the urethra is narrowed by an irregular contraction and wrinkling of its lining membrane. Immediately in front of the stricture a false passage has been formed by the use of caustic, which, being forced below the stricture, has made a deep cul-de-sac (very like that shown in the preceding specimen) in the substance of the bulb. This appears, however, to have been formed some time before

the patient's death, for all the parts around are smooth. The more immediate cause of death was stone in the bladder.
Presented by Sir Everard Home.

4412. A bladder, and part of a penis, laid open from the front. Part of the membranous and the bulbous portions of the urethra are contracted irregularly to less than a line in diameter. An inch and a half of the urethra anterior to the stricture has been preserved, and is dilated to nearly twice its ordinary size; its lining membrane appears to have been inflamed, or superficially ulcerated. The walls of the bladder are thickened and contracted. The dilatation of the urethra anterior to the stricture was, doubtless, produced by bougies long pressed against the stricture and the parts in front of it. *Hunterian.*

4413. Parts of a prostate gland and of a penis, laid open so as to give a lateral view of the urethra. A stricture appears to have obliterated the posterior part of the bulbous and the greater part of the membranous portions of the urethra; what remains of it is indicated by pieces of bristle. A bougie is placed in a false passage formed by caustic. It commences half an inch anterior to the stricture, and, after a course of an inch and a half, re-enters the urethra in its prostatic portion, which is dilated much beyond its natural size. *Hunterian.*

False Passage.

4414. A penis, with the urethra laid open from above. A false passage extends nearly the whole length of the spongy portion of the urethra, close by its side, and opens into it at both ends. A bristle is placed in the anterior part of this passage, a bougie in the posterior part. The latter part is the larger; the sides of the anterior part are very rough and uneven. The urethra itself appears healthy; at most, there is a slight stricture about the middle of its cavernous portion. *Hunterian.*

4415. A bladder, and part of a urethra. A short, wide, false passage has been made anterior to the membranous part of the urethra, into which it opens at both ends; and in the prostatic portion there are many grooves separated by prominent folds of mucous membrane. The parts around the prostate gland and the neck of the bladder are rough and irregular, having been the seat of abscess. The coats of the bladder are of ordinary thickness, but very pale.

From a gentleman, 77 years old, who for many years had his urine regularly drawn-off by his servant. He died of the abscess already mentioned, which appeared to be produced by some violence in the introduction of the catheter.

Presented by Sir Benjamin C. Brodie.

4416. A bladder and penis, laid open from the front. There is a long narrow stricture of the bulbous portion of the urethra, and of the part just anterior to it, in which a piece of whalebone is placed. A large false passage has been made by the side of the stricture; commencing in front of it, it passes obliquely to the left, penetrating deeply into the substance of the bulb, and by a branch extending over the urethra far into the right lobe of the prostate gland. The muscular coat of the bladder is in some parts nearly an inch thick, and strongly fasciculated; its mucous membrane is healthy.

The patient was 44 years old. He long laboured under stricture, which was relieved by keeping a catheter in the urethra. He died with pericarditis.

From the Museum of Robert Liston, Esq.

4417. A bladder, and part of a penis, laid open from the front. There is a stricture in the bulbo-membranous part of the urethra, through which a black bougie is passed. Another bougie is placed in a false passage, which, commencing about an inch in front and on the left side of the stricture, passes through a narrow fold of the mucous membrane of the urethra; and then, passing above and obliquely across the strictured part of the canal, is continued in a curve by the side of the prostate gland into the right vesicula semi-

nalis. The muscular coat of the bladder is hypertrophied; its mucous membrane is thickened and wrinkled.

The patient was 62 years old. He had retention of urine, which was relieved by the catheter. The false passage was formed in the subsequent treatment.

From the Museum of Robert Liston, Esq.

4418. A bladder, penis, and adjacent parts, the cavity of the bladder and the urethra being laid open from the left side. The relative position of the parts may be discerned by marking the section of the symphysis pubis on the right, and a part of the raphé of the perinæum on the left side of the preparation. The course of the urethra can hardly be traced in the midst of the numerous false passages which have been made by its sides. Three of the most considerable false passages commence at two large apertures made through the wall of the urethra, about two inches from its external orifice. One of these, indicated by a white bougie, opens again into the urethra, after a straight course of about an inch and a half; the second, similarly indicated, does so after a rather longer course; and the third, in which a catgut bougie is placed, after twice entering and again leaving the urethra, at length terminates in it, at the beginning of its prostatic portion. In the tissues beneath and around these passages, there is a series of cavities left after the discharge of abscesses, which have opened both into the urethra and into the false passages, and by several orifices through the integuments of the penis, scrotum, and perinæum. A large red bougie is placed in a continuous canal, which passes along this series of cavities, and through which the urine finally passed. The canal commences by a large opening beneath the penis, and just in front of the scrotum; then, passing beneath the urethra and between the prostate gland and the rectum, it opens into the bladder by a large orifice, near that of the left ureter. The prostate gland is enlarged; its surface, as well as the mucous membrane of the neck of the bladder, is stained in several places, as if by the application of nitrate of silver. The

coats of the bladder are thickened, and large patches of lymph are effused upon its mucous membrane.

From the Museum of Robert Liston, Esq.

4419. The bladder, and parts of the penis and rectum, of a man who died ten days after an incision had been made in the perinæum for the relief of retention and effusion of urine, in consequence of a stricture of the urethra. The tissues, which were cut through in front and to the left side of the anus, are ragged and sloughing. The muscular coat of the bladder is exceedingly hypertrophied ; it is in some parts three quarters of an inch thick. The mucous membrane is thickened, indurated, and deeply wrinkled.

Presented by Sir William Blizard.

Ulceration unconnected with Stricture.

4420. Part of a penis, in which the urethra has been laid open, and exhibits numerous small deep ulcers, with elevated margins, at the orifices of the ducts or lacunæ of its mucous glands. In the membranous portion there is a generally diffused superficial ulceration, with a slight narrowing of the canal ; and below it is a small abscess, with thin smoothly-lined walls.

From the Museum of Sir A. P. Cooper.

4421. The extremity of a penis, with long, irregular, and flattened bands, apparently of lymph, in the urethra. The interior of the urethra is superficially ulcerated ; the lymph is in only a few points adherent to it.

The patient had a large calculus and ulceration in the bladder.

From the Museum of Sir A. P. Cooper.

Morbid Growths.

4422. "A diseased urethra, which is become very irregular, having an excrescence upon it, which might be called a caruncle" (*Hunterian MS. Catalogue*). In front of the

caruncle, the urethra is irregularly contracted; behind it is dilated. This must be one of the specimens to which Mr. Hunter alluded in the following passage :—

"*Of Caruncles or Excrescences in the Urethra.*

"Strictures are not supposed to be the only causes of obstruction to the passage of urine in this canal; excrescences or caruncles are likewise mentioned by authors as happening frequently. From the familiarity with which they talk of them, and the few instances in which they really occur, one would suspect that this cause of obstruction was originally founded in opinion, and not observation, and afterwards handed down as matter of fact. If caruncles had been at first described from actual examination of cases, the language would have accorded with the appearances, and they would have been considered as seldom the causes of obstruction compared with strictures. However, they do sometimes happen, although but rarely. I have in all my examinations of dead bodies seen only two, and these were in very old strictures, where the urethra had suffered considerably. They were bodies rising from the surface of the urethra like granulations, or what would be called polypi in other parts of the body. It is possible they may be a species of internal wart, for I have seen warts extend some way into the beginning of the urethra, having very much the appearance of granulations."—*Hunter: On the Venereal Disease; Works*, vol. ii. p. 277.

4423. Part of the bladder and urethra of an Ox. A pyriform growth is attached to the verumontanum, and reaches backwards to the neck of the bladder. It is about two inches in length, has a round pedicle nearly an inch long and two lines in diameter, and is three quarters of an inch in diameter at its larger end. Its surface is smooth and covered with mucous membrane, like that lining the urethra. The part of the urethra around the growth is dilated, but, as well as the adjacent parts, is healthy in its texture. *Hunterian.*

4424. The external organs of generation of a young woman, exhibiting a small, minutely lobulated, and vascular growth, attached by a broad base to the lower wall of the external orifice of the urethra.

From the Museum of R. B. Walker, Esq.

4425. The external organs of generation of a woman, from whom a growth like that shown in the preceding preparation was extirpated a long time before death. The orifice of the urethra is large, and its lower margin is defective, but in other respects the parts are all healthy.

From the Museum of R. B. Walker, Esq.

4426. A penis, with the urethra laid open from above. The membranous portion of the urethra is dilated and elongated, so as to form a cavity an inch and a half long, and nearly three quarters of an inch in diameter. The dilatation appears to have been consequent on the lodgment of the small calculus which is at the bottom of the bottle. The mucous membrane of the whole urethra is irregularly wrinkled and rough. The prostate gland is slightly enlarged. *From the Museum of Sir A. P. Cooper.*

Specimens of Injuries and Diseases of the Urethra in other parts of the Museum may be found by reference to the Series of General Pathology, and of Diseases of the Kidney, Bladder, and Prostate Gland.

Series LIII. INJURIES AND DISEASES OF THE PENIS.

Strangulation by Ligature: 4427.
Phimosis and Paraphimosis: 4427 A to 4433.
Inspissation of the Preputial Secretion: 4434 to 4436.
Effects of Inflammation: 4437 to 4439.
Adhesions: 4437.
Gangrene: 4438, 4439.
Syphilis and Allied Diseases: 4440 to 4455.
Morbid Growths: 4456 to 4471.
Sebaceous Cyst: 4456.
Papilloma: 4456 A.
Epithelioma: 4457 to 4471.

Strangulation by Ligature.

4427. A glans penis from a boy, aged 10; it was almost severed by a thread tied around the corona by the boy himself. The urethra was divided, and only a thin band of tissue at the middle of the corpora cavernosa remained to be severed. The epithelium is continued over the surface through which the ligature had cut its way.

Presented by Christopher Heath, Esq., 1883.

Phimosis and Paraphimosis.

4427 A. Part of the penis of an adult, affected with natural phimosis, but in other respects healthy. *Hunterian.*

4428. Part of a penis, with phimosis, produced chiefly by inflammation and œdematous enlargement of the prepuce.

Hunterian.

4429. The prepuce of a man, aged 35, removed for congenital phimosis. The surface of the prepuce in contact with the glans is of almost cartilaginous hardness.

Presented by John Hilton, Esq., 1865.

4430. The greater part of the prepuce of a boy aged 10. It was extremely long and pendulous, and its orifice (expanded before the prepuce was removed) was very minute, causing great pain and trouble during micturition.

The portion of prepuce left after circumcision was quite sufficient to cover the penis. The glans was very small and deeply imbedded in preputial secretion.

Presented by Alban Doran, Esq., 1880.

4431. Part of a penis, in which the prepuce has become completely adherent to nearly the whole of the glans, leaving but a small orifice for the passage of the urine. Hairs have grown on the lower surface of the prepuce, even to its extremity. *Hunterian.*

4432. Part of a penis, in which the operation of slitting the prepuce, for the cure of phimosis, was performed long before death. The edges of the wound have smoothly healed, but they still appear swollen: the glans is half exposed. *Hunterian.*

4433. Part of the penis of an adult, from which the whole prepuce has been removed by circumcision. In the situation of the former attachment of the prepuce there is a slight wrinkling of the healed skin ; the integuments of the body of the penis and of its glans appear very nearly alike.

Hunterian.

Inspissation of the Preputial Secretion.

4434. Part of a penis, with small warts in the interior of the retracted prepuce, and a large collection of the secretion of the *glandulæ odoriferæ* adhering around the glans, dried, and hardened into a thick laminated substance like cuticle.

Hunterian.

4435. The end of a penis, in which half the glans is covered with the secretion of the *glandulæ odoriferæ*, hardened, as in the preceding preparation, into a layer like cuticle.

From the Museum of Sir A. P. Cooper.

4436. Layers, a line or more in thickness, of similar secretion dry and hard, like pieces of horn.

Effects of Inflammation.

4437. A penis which has been injected. On the middle of its dorsal surface is a rounded groove or constriction, at which its distal portion is bent upwards and somewhat towards the left side. This condition probably resulted from thickening and contraction of the fibrous sheath of the corpus cavernosum similar to that often seen in the palmar fascia.

Presented by Sir Erasmus Wilson, 1884.

4438. A corpus cavernosum penis, which was discharged as a slough.

From a man, aged 62, who had a stricture of the urethra. Violent inflammation ensued after a single passage of a catheter, and both corpora cavernosa sloughed. The one came away entire, the other piecemeal. The patient died at the end of a month from pyæmia.

Presented by Barnard Holt, Esq., 1873.

4439. The glans and portions of one corpus cavernosum penis, which, together with the rest of the organ, excepting its integuments, was destroyed by sloughing, and removed through incisions.

From a man aged 31. He was often exposed to cold, wet, and great fatigue, having to walk daily for a considerable distance to and from his work. After working in wet clothes during an attack of tonsillitis, he was seized with pain and brawny swelling in the left lower extremity, the external saphena and femoral veins became plugged, and the penis distended and rigid, its integuments remaining simply œdematous. Incisions were made into the integuments, and the cavernous and spongy bodies removed in a sloughing condition. The patient recovered. (For a full account of the case see Trans. Path. Soc. vol. xxx. p. 323.)

Presented by John Gay, Esq., 1878.

Syphilis.

4440. Part of a penis, on the skin of which are two small patches of a superficial and apparently scaly eruption. There was eruption of the same kind upon the surface of the body. The blood-vessels of the glans are minutely injected.
From the Museum of Sir A. P. Cooper.

4441. The end of a penis, exhibiting on the inferior surface of the glans two circumscribed depressions, left after the healing of syphilitic ulcers. *Hunterian.*

4442. The end of a penis, exhibiting a less depressed cicatrix just anterior to the frænum. *Hunterian.*

4443. The end of a penis, showing two large depressed cicatrices, one of them quite circular in outline, on the glans in front of the corona, apparently the result of extensive spreading chancres. *From a dissection-subject*, 1865.

4444. Section of the end of a penis, exhibiting superficial and apparently healed ulcers of the glans and the adjacent part of the prepuce. *From the Museum of Sir A. P. Cooper.*

4445. Part of the penis of a negro, from which a considerable portion of the prepuce, with its frænum and the adjacent part of the glans, were removed by syphilitic ulceration. The diseased parts have healed smoothly, but with thickening and induration of the prepuce around the base of the glans. *From the Museum of Sir A. P. Cooper.*

4446. Part of a penis, in which a syphilitic ulcer, extending through the prepuce, has healed. *Hunterian.*

4447. Part of a penis, from which the prepuce has been completely removed by syphilitic ulceration. The ulceration has smoothly cicatrized, except on a part of the corona glandis, to which it appears to have spread from the prepuce. *Hunterian.*

4448. The end of a penis, in which a great portion of the glans has been destroyed by syphilitic ulceration. The ulceration appears to have been nearly healed when the patient died. *Hunterian.*

4449. A scrotum, with the remains of a penis which has been almost wholly destroyed by syphilitic ulceration; the ulcerated parts have healed. *Hunterian.*

4450. Part of a penis, of which the glans has protruded through a large ulcerated opening on the base of the prepuce. The glans and the exposed surface of the penis, for an inch behind it, are irregularly ulcerated and covered with granulations. The remains of the prepuce are enlarged and very œdematous, but its interior is not exposed. *Hunterian.*

4451. Part of a penis, in which, after the glans had, as in the preceding preparation, protruded through the ulcerated prepuce, all the diseased parts healed. The prepuce, reduced to its natural dimensions, and retaining its natural saccular form, has its base attached to the inferior surface of the glans. The skin around the base of the glans is drawn tight; but there does not appear to have been any constriction of the urethra. *Hunterian.*

4452. Part of a penis, in which, as in the preceding preparations, the glans passed through an ulcerated aperture in the upper part of the prepuce. All the diseased parts have smoothly healed; the skin of the base of the prepuce is closely united to the base and lower part of the glans, and the anterior

part of the prepuce hangs loose below and in front of the glans. A bougie is placed in the urethra.

From the Museum of Sir A. P. Cooper.

4453. Part of a penis, in which the frænum of the prepuce and the adjacent part of the wall of the urethra were destroyed by syphilitic ulceration. The ulcers have healed, but the aperture in the urethra remains: a piece of whalebone is placed in it. *Hunterian.*

4454. Part of a penis, in which an ulcer, by the side of the frænum of the prepuce, has penetrated the urethra close to its external orifice. A bristle is tied round the remaining partition between the orifice of the urethra and that of the ulcer. *Hunterian.*

4455. A penis, in which a large and deep, sloughing, syphilitic ulcer has destroyed the frænum of the prepuce and the adjacent portion of the glans, and has made an extensive opening in the urethra. Circumcision appears to have been performed. The parts have smoothly healed, but the opening in the urethra remains half an inch in length. A bougie is passed from the orifice of the urethra across its ulcerated part, and through the healthy part behind the ulcer.

From the Museum of Sir A. P. Cooper.

Morbid Growths.

4456. A thin-walled cyst, nearly two inches in diameter, removed, with a portion of the integument, from a prepuce. It contained sebaceous matter.

Presented by Sir William Fergusson, 1872.

4456 A. The extremity of a penis; the glans is covered with a papillomatous, warty growth through which the urethra passes.

From a man, aged 30, who died of an acute visceral disease entirely unconnected with the genitals; the affection of the penis had probably existed about twenty months, and was attributed by the patient to venereal disease, although no other symptom could be observed. (See Trans. Path. Soc. vol. xxiv. p. 154, and MS. Notes, vol. ii. p. 18.)

Presented by Henry H. Rugg, Esq., 1873.

4457. Part of a penis, with a large and partially ulcerated epitheliomatous growth around the glans. The growth resembles a thick ring of large and minutely divided warts: it is probably an epithelioma.

From the Museum of Robert Liston, Esq.

4458. Section of a penis, having a large warty and very vascular growth of carcinomatous substance, like that last described, springing from all the upper and anterior surface of the glans. *From the Museum of Robert Liston, Esq.*

4459. A half-section of the glans penis and neighbouring parts surrounded by a growth similar to those shown in the two preceding specimens. A black bristle is placed in the urethra.

From a man between 40 and 50 years of age.

Presented by Richard Partridge, Esq., 1864.

4460. A section of the extremity of a penis, injected. The whole of the prepuce has been destroyed, and along the line of its reflexion on to the glans is an exuberant epitheliomatous growth, with hard everted edges. A portion of the glans is also deeply ulcerated, and the margin of the ulcer is very thick, everted, and raised. The section shows that the morbid growth extends but little into the deeper tissues. *Presented by Richard Partridge, Esq.*, 1860.

4461. Section of a glans penis, in which there is no trace of the original structure, the whole of it being involved in a large lobulated growth of soft cancerous substance. The section of the morbid substance displays numerous pale, undulating, fibrous partitions, which in general radiate from the middle towards the circumference of the growth. The surface of the growth is coarsely granular, but does not appear to be ulcerated. *Hunterian.*

4462. The other section of the same glans penis. *Hunterian.*

4463. The end of a penis, removed by amputation. The whole of the glans, and the margins of the retracted prepuce, are covered with an irregularly nodulated and ulcerated growth with thickened edges.

The microscopical characters of this growth are those of epithelioma.

From a man aged 35. Eight years before the operation he had syphilis, and afterwards gonorrhœa. Nine months before the operation an ulcer formed on the glans, and gradually extended. He was treated with iodide of potassium without benefit. (MS. Notes, vol. i. p. 51.)

Presented by John Hilton, Esq., 1866.

4463 A. The extremity of a penis, with the upper part of the glans and adjoining portion of the corpora cavernosa extensively destroyed by epithelioma. The distal halves of the corpora cavernosa are much enlarged, and infiltrated with the morbid growth. A piece of glass rod is placed in the urethra.

On microscopic examination the glans was found to be infiltrated with small spheroidal epithelium, forming whorls of cells, and in many parts arranged in narrow rods or columns. The corpora cavernosa showed alveoli filled with very small epithelial cells, many of them of an elongated form.

The specimen, with the scrotum and testicles, was removed from an old man.

Presented by Frederick Treves, Esq., 1885.

4464. The end of a penis, with the glans and prepuce affected

with epithelioma. The disease has commenced about the corona, and thence extended through the prepuce, perforating it on the dorsal aspect. The part of the prepuce between its own free border and the perforation has been incised, to thoroughly expose the disease to view.

From a man aged 52. The disease was of twelve months' duration.

Presented by Sir William Fergusson, 1867.

4465. A specimen of advanced epithelioma of the glans penis and prepuce, injected. There is much destruction of substance, and the morbid deposit is very exuberant.

From a publican, aged 61. The disease commenced six months before operation as a small wart-like growth on the mucous surface of the prepuce, covering the dorsum of the glans penis. It was painless till caustics were applied to it, when it began to enlarge. The glands in the groin were hardly, if at all, affected. The penis was removed by the galvanic cauterising écraseur, and the patient left the hospital well. (See Guy's Hospital Surgical Records, vol. iv. 1867.)

Presented by Edward Cock, Esq., 1867.

4466. Another specimen of the same disease; but here the destruction of tissue is much in excess of the morbid deposit. The middle part of the glans is chiefly affected, the urethra being exposed. The ulcerated free edge of the integument is sharply cut, showing thick deposit under its epidermis.

From a wheelwright, aged 56. Three years before his death a painful wart appeared on the prepuce. Caustics were applied: it increased in size, and was at length excised with the entire prepuce. The growth soon reappeared, and the penis was amputated by the galvanic cauterising écraseur. The patient died nine days afterwards of pyæmia. (See Guy's Hospital Surgical Record, vol. iv. nos. 1137, 38.)

Presented by Edward Cock, Esq., 1867.

4467. The end of a penis, amputated in consequence of cancerous ulceration of the glans and prepuce. Around nearly all the free border of the prepuce (which is now drawn backwards) there is an ulcer with a hard, sinuous, elevated

margin; and close by it, at those parts of the border of the prepuce to which the ulceration has not extended, there are flat, oval, slightly elevated cancerous tubercles, with superficially ulcerated surfaces. Beneath the border of the prepuce the ulceration has spread deeply around the neck of the glans and the adjacent part of the body of the penis. On the glans itself there are several broad oval ulcers, with flat bases and slightly elevated margins, of which some have coalesced. *From the Museum of John Taunton, Esq.*

4468. Part of a penis, exhibiting extensive cancerous ulceration, like that last described, destroying the base of the glans, the adjacent portion of the prepuce, and the tissue under the skin of the body of the penis. In the neighbourhood of the ulceration the glans appears unaltered, but the prepuce is thickened and knotty.

From the Museum of Sir A. P. Cooper.

4469. The terminal portion of a penis, showing an indurated cancerous ulcer of the glans and prepuce.

From a man aged 32. He was seized with sudden pain in the organ during coition, and on the next day it was much swollen and inflamed; a small sore was then seen on the glans. Mercury was administered without benefit, the sore enlarged, the glands in the right groin became affected, and at the end of four months the penis was amputated. (See MS. Notes, vol. i. p. 206.)

Presented by John Hilton, Esq., 1872.

4470. Part of a penis, of which the glans and prepuce have been extensively destroyed by cancerous ulceration. The ulcerated parts are hard, uneven, and knotted; and have circumscribed, swollen, and elevated margins. The blood-vessels are injected.

The patient died a year and a half after the removal of this part, with cancer in the groin.

From the Museum of Robert B. Walker, Esq.

4471. Section of a penis, in which the areolæ of the bulb, and of a great part of the corpus cavernosum urethræ, appear to be filled with a growth of epithelial cancer. At the anterior part of the penis there is a large unevenly ulcerated aperture in the urethra, and the whole length of the canal is rough and narrow. Some of the vessels on the back of the penis appear filled with coagula. *Hunterian.*

Other specimens of Injuries and Diseases of the Penis may be found by reference to the preceding Series of Diseases of the Urethra.

Series LIV. DISEASES OF THE OVARIES.

Atrophy: 4472, 4473.
Inflammation: 4474 to 4480.
Tubercle: 4481.
Cysts:—
Dilatation of Graafian Follicles and other Simple Ovarian Cysts, including Cysts of the Hilum: 4482 to 4502.
Proliferous Cysts, with Cystic or Glandular Intracystic Growths: 4489 to 4498 B.
With Papillomatous Intracystic Growth (Hilum Cysts): 4499 to 4502.
Changes in Cyst-walls: 4503 to 4505 A.
Dermoid Cysts: 4506 to 4527.
Solid Tumours: 4528 to 4548.
Results of Operation and Accidents: 4549 to 4562.
Twisting of Pedicle: 4549 to 4552 B.
Tapping and Drainage: 4553, 4554.
Effects of Clamp on the Pedicle: 4555 to 4557.
Effects of Ligature: 4558 to 4560.
Abdominal Wound: 4561, 4562.

Atrophy.

4472. A half-section of a right ovary from a patient who had not menstruated for eleven months before death, owing apparently to ill health from cystic disease of the opposite ovary. The surface is somewhat irregular, and the interior, exposed by section, shows a very dense uniform stroma without a trace of a corpus luteum, but with three minute cysts close to the surface. There are two small calcareous patches in the stroma.

The patient was a domestic servant, aged 28. She had borne one child about ten years previously. Abdominal swelling commenced with the amenorrhœa, and a large cystic tumour could be detected in a few months. An operation could not be performed till the tumour had become very large, and the patient's health much impaired. She died of acute peritonitis within forty-eight hours after removal of the cyst. The uterus was small, soft and

anteflexed; its cavity contained a few drops of blood, its mucous membrane was very smooth.

Presented by Alban Doran, Esq., 1878.

4473. An ovary much flattened and elongated. It has been laid open, and a recent corpus luteum (of menstruation) is exposed; its stroma is atrophied and no follicles can be detected.

The patient was a young woman from whom a simple cyst, developed in the region of the parovarium, was removed with this specimen. The pressure of the cyst had caused the flattening and atrophy of the greater part of the ovary.

Presented by William A. Meredith, Esq., 1881.

Inflammation.

4474. A pair of ovaries with the Fallopian tubes. The stroma of the ovaries is denser than normal, and presented, when fresh, signs of acute inflammation, being exceedingly vascular and infiltrated with recent exudation. None of the follicles contained pus. Both tubes are obstructed and dilated close to the fimbriæ; the distended portion of each is filled with curdy pus.

This and the four succeeding specimens were removed by the donor from women who suffered from long-standing and intolerable pain either during menstruation or constantly, and with aggravation at the menstrual period. (See Trans. Path. Soc. vol. xxxiii. 1882, p. 212.)

Presented by Lawson Tait, Esq., 1881.

4475. Two ovaries, with the adjacent parts of their Fallopian tubes. The ovaries and tubes are closely adherent, their external surfaces are covered with old organized adhesions, some forming membranous flaps of considerable size. In the upper specimen the interior of the diseased structures is laid open. The tube is seen to be obstructed at its extremity, but patent towards the uterus; its walls are much thickened. The stroma of the ovary is much altered and has a somewhat gelatinous appearance; the follicles cannot be seen.

From a married woman aged 32, never pregnant after her nineteenth year. She had suffered for three years from very

severe dysmenorrhœa. The entire uterine appendages were removed, and the patient, a year after the operation, was in perfect health and entirely free from pain.

Presented by Lawson Tait, Esq., 1881.

4476. An ovary and part of a Fallopian tube laid open and prepared, as two sections. In the upper half the tube has been partially dissected away from the ovary so as to distinguish the two structures more plainly. They have been intimately soldered together both externally, as is well shown at the back of the lower half, and by their deeper parts. The stroma of the ovary was deeply congested, and several dilated follicles, two of which are here exposed, contained pus. The tube is obstructed, its walls much thickened, its cavity dilated, having contained, when fresh, one ounce and a half of pus; the mucous membrane presents the appearance of the lining membrane of a true abscess. The opposite tube is preserved, No. 4564.

Presented by Lawson Tait, Esq., 1881.

4477. A pair of ovaries, with parts of the corresponding Fallopian tubes. The walls of the tubes are much thickened; their canals, into which bristles have been passed, are obstructed at the fimbriated extremity, but widened elsewhere. The upper ovary shows great increase in the stroma; the firm portion close to the tube appears to be a fibrous alteration of a corpus luteum. The lower ovary presented similar changes; it has been mutilated in preparation.

From a sterile married woman, aged 27, subject for six years to severe and intractable dysmenorrhœa and menorrhagia. After the operation she made a speedy recovery.

Presented by Lawson Tait, Esq., 1881.

4478. A pair of ovaries, with the adjacent portions of the Fallopian tubes. The ovaries and tubes are matted together by old and recent adhesions. The upper ovary has been laid open to show its interior: two follicles are much dilated, six or seven others have undergone atrophy, with thickening of their walls; the stroma appeared very vascular when

fresh, its vessels are dilated. The lower ovary is enlarged, and its surface covered with shaggy adhesions. The fimbriated extremity of each tube has been sealed up by adhesive inflammation, so as to cause considerable dilatation of the obstructed tube.

From a married woman, aged 37. She had suffered for several years from intense persistent pain at every menstrual period, the flow of blood being also very profuse. The fundus of the uterus was large, hard and tender. The tubes and ovaries were removed, and the patient made a good, though slow, recovery.

Presented by Lawson Tait, Esq., 1881.

4479. An ovary divided into two portions. The outer surface is considerably puckered, the cut surface of the interior is tougher than usual, and a corpus luteum may be seen at each extremity. When examined microscopically the stroma was found to be very dense, containing an abundance of connective-tissue cells with little fibrous tissue.

From a married woman, aged 42. When 27 years old she was attacked with puerperal scarlet fever, and great pelvic pain followed during convalescence; menstruation reappeared four months after confinement, but slowly disappeared, to be replaced by periodical epileptiform attacks. These occasionally ceased, when menstruation was temporarily restored, but returned when the catamenia stopped again, and the patient's health became so bad that both ovaries were removed and the fits ceased. (See MS. Notes, vol. iii. p. 143.)

Presented by Lawson Tait, Esq., 1879.

4480. The extremities of two Fallopian tubes with portions of ovarian tissue attached. The upper (from the left side) is laid open posteriorly, where the rugæ of its fimbriated extremity are seen to be somewhat hypertrophied; it contains a small cyst (laid open from the front) which, when fresh, held creamy and fatty material. Above this cyst is ovarian tissue, with one small cyst, probably a Graafian follicle. The lower (from the right side) shows still greater confusion of tubal and ovarian tissue. A solid spherical fibroid body, nearly half an inch in diameter, is laid open anteriorly; behind it is some normal ovarian tissue; above it is a dilated portion of the Fallopian tube laid open to show the extreme and abnormal corrugation of its mucous membrane; from

the outer surface of this dilatation hangs the small pedunculated cyst, generally observed near the end of the tube, and below the dilated part of the cyst is the opening of the tube, into which a bristle is passed.

From a woman, aged 50, subject to dysmenorrhœa for sixteen years. A swelling, the size of a hen's egg, was detected on the right side of the uterus; it almost disappeared between the periods. In removing these specimens the left ovary was found adherent to the side of the uterus, and was with difficulty removed. (See MS. Notes, vol. iii. p. 132.)

Presented by Sir T. Spencer Wells, 1879.

Tubercle.

4481. Part of the abdomen of a hen Pheasant, showing the ovary enlarged into a deeply lobulated mass, which measured, when fresh, 2·3 inches in length and 1·1 in breadth. The enlargement was found to be due to tubercle, which was generally diffused over the liver, pancreas, omentum, and other viscera.

A full account of the specimen will be found in a memoir by the donor, "On a Tumour of the Ovary in the Common Pheasant," 'Journal of Anatomy and Physiology,' vol. xiii. p. 91.

Presented by Henry H. Slater, Esq.

Cysts.

4482. A half-section of a right ovary, with part of the Fallopian tube and contiguous portion of the broad ligament attached, from a young married woman who had menstruated twenty-two days before it was removed. It shows a Graafian follicle about half an inch in diameter and filled with clot, which was at no point decolorized, and bore, when fresh, a minute opening on its outer surface. Five other small cysts may be seen, each about an eighth of an inch in diameter; two of these are close together, their walls being at one point contiguous. These cysts contained no ova. A small cystic body, not opened, lies close to the attachment of the broad ligament to the ovary.

The patient was 32 years of age, and had borne two children. During the operation for the removal of a cystic tumour of the

left ovary, this specimen, presenting appearances of incipient cystic disease, was removed also. A few days after the operation she menstruated scantily, but thenceforward till last seen fourteen months later, the catamenia never reappeared.

Presented by Dr. G. Granville Bantock, 1878.

4483. An enlarged ovary, in the interior of which there are numerous small, oval, smoothly-walled cysts, with distinct thin walls, all, probably, enlarged Graafian vesicles.

Hunterian.

4483 A. An ovary containing a smooth-walled cyst, about an inch in diameter. It is probably a dilated Graafian follicle.

Presented by Alban Doran, Esq., 1884.

4484. A cyst connected with the ovary by a somewhat flattened base. The greater part of the ovarian ligament runs on to its surface internally. It is unilocular, globular, and smooth. It was covered entirely with peritoneum, and blood-vessels were seen passing over its walls. It contained a thin albuminous alkaline fluid. A section of the ovary showed well-formed ovisacs.

From a new-born infant.

Presented by Charles J. Cullingworth, Esq., 1874.

4484 A. An ovary, with a deeply lobulated pedunculated growth attached to its free surface. It is made up of an agglomeration of loculi, containing a milky fluid. The substance of the ovary is unaffected, but the stroma is dense and fibrous, and contains a large corpus luteum.

From a woman aged 44. The opposite ovary was converted into a large multilocular tumour that had forced its way between the layers of the broad ligament.

Presented by Dr. G. Granville Bantock, 1883.

4485. The uterus and its appendages, from a fœtus at birth. The left ovary is dilated into a single cyst half an inch in diameter, into which runs the ovarian ligament, as in No. 4484, thus proving the cyst to occupy the place of the

ovary. In the region of the parovarium no cysts are to be seen. A small cyst has formed on the inner part of the right ovary. *Presented by Sir T. Spencer Wells*, 1878.

4486. A single cyst, over one inch in diameter; its walls are very thin, and show traces, externally, of ovarian tissue; internally it is lined by a smooth, shining membrane. In the substance of the walls the cavity of a small cyst has been exposed.

Removed from an adult during life. The cyst is said to have arisen from simple dilatation of a Graafian follicle.

Presented by Lawson Tait, Esq., 1880.

4486 A. A cyst involving the whole ovary, three and a half inches in diameter, and which contained six ounces of "pus." Its lining is smooth, but scattered over its surface are numerous rounded and elongated depressions, apparently marking the intervals between prominent fibrous bands. The Fallopian tube and part of the broad ligament occupy the upper and back part of the preparation.

The ovary was removed on account of severe and lasting pain.

Presented by Lawson Tait, Esq., 1883.

4487. The ovary of a Hen, of which nearly all the ovisacs have been enlarged into cysts from half an inch to an inch and a half in diameter, and attached by long pedicles. Most of the ovisacs are full of fluid; others contain a thicker and opaque substance. Altogether they make up a mass nearly six inches long and four broad.

Presented by Henry Earle, Esq.

4488. A Hen, in which the abdominal cavity is distended by disease of the ovisacs like that last described, except that the ovisacs are more numerous, and not so large. They were all filled with a transparent albuminous fluid, a part of which in each of them has been coagulated by the alcohol. Just

below the ovary is a dark, round mass, apparently blood effused in the abdominal walls and coagulated.

4488 A. Two sections of the ovaries of old Mares, with several smooth-walled rounded cysts, which are believed to have originated in the prolongation of the parovarium into the hilum of the ovary. The surface of the lower specimen is covered by many large veins, which have been injected.

Such cysts are common in the ovaries of old Mares, and it has been suggested that congestion of the venous plexuses accompanying senility is the primary cause of the dilatation of the parovarium. (See Journ. Anat. and Physiology, vol. xix. p. 141, 1885.)

4488 B. The ovaries of a Tiger, 12 years of age, which was born in a menagerie. Suspended above is a section of the right ovary, showing three firm rounded nodules, of a pale reddish colour, which had the structure of corpora lutea; above them is a cyst, a quarter of an inch in diameter, and believed to have originated in the rudiments of the Wolffian body. Another cyst occupies its surface. The left ovary, placed below, contains three similar solid bodies and one cyst of larger size. A pedunculated cyst is attached to the Fallopian tube, near its middle.

See Journ. Anat. and Physiology, vol. xix. p. 141, 1885.

Presented with the preceding by J. Bland Sutton, Esq., 1885.

Proliferous Cysts, with Cystic or Glandular Intracystic Growths.

4489. A compound cystic tumour of an ovary. The five lower cysts appear to have sprung exogenously from the remaining upper and largest cyst; at several points small cysts appear to be commencing as bullæ under the outer coat of the large cyst. No secondary cystic growths spring from the inner walls of the cysts; but from these walls grow minute papillary elevations, and similar growths may be seen sprouting freely from the outer surfaces of the lower cysts at several points. The walls of all the cysts are thin, and their cavities contained clear fluid.

From a married woman, aged 42. Eight months before this tumour was removed ovariotomy had been performed, and a large

cystic left ovary taken away. On recovery, a tumour was detected on the right side of the abdomen, which rapidly enlarged. The tumour was removed, but the patient died 154 hours after the operation. For a full account of this case, see Trans. Med.-Chir. Soc. vol. xlvi. 1863, p. 161, and the donor's book 'On Ovarian and Uterine Tumours,' 2nd edit. 1882, p. 394.

Presented by Sir T. Spencer Wells, 1865.

4490. A large multilocular cystic tumour developed in the left ovary. There are two principal cysts of nearly equal size, which, in their natural position, were placed one above the other. Within the lower one (which is opened towards the front of the preparation) are several smaller thin-walled cysts, forming spherical and oval elevations upon the inner surface; and its thickened walls are also in many places studded with numerous cysts not larger than pins' heads. Recently deposited lymph coats the lining membrane of the cavity. The ligament of the ovary and the Fallopian tube are seen at the lower part of the preparation.

From a widow, aged 33, mother of five children. Enlargement of the abdomen commenced about a year and a half before her death; and when it had attained an inconvenient size, paracentesis was performed, and about four quarts of a reddish-brown thick fluid were drawn off; but the abdomen was found not to have diminished much in circumference. She died eight days afterwards, of peritonitis: and on examination the tumour was found to consist mainly of two large cysts, into the lower one only of which the trocar had passed; this contained two quarts of dark-coloured thick fluid, like that drawn-off during life; the upper one contained three quarts of clear pale serous fluid. The uterus and right ovary were healthy.

Additional particulars will be found in Mr. T. S. Lee's Jacksonian Prize Dissertation 'On Tumours of the Uterus and its Appendages' (1845), MS. Roy. Coll. Surgeons' Library.

Presented by Thomas Stafford Lee, Esq.

4491. A large cystic tumour of the ovary, injected. It consists of one large cyst, from the inner walls of which grow several smaller cysts, communicating by wide openings formed by atrophy of contiguous portions of their walls. The outer surface of the cyst is smooth and almost free from shreds of lymph, as before removal it was not adherent to any surrounding structures excepting a large piece of omentum.

This surface is somewhat irregular in outline, dead white in colour, supplied with but few vessels, and it presents at many points small, very shallow, sharp-edged depressions with a highly vascular base.

From a single woman, aged 34. The tumour commenced as a hard tender swelling in the right iliac region. Two years and four months after its first appearance it was tapped, but it rapidly refilled, and was removed six months later; the patient made a good recovery. The case is fully described in the first edition of the donor's work on 'Diseases of the Ovaries,' 1864, p. 281.

Presented by Sir T. Spencer Wells, 1864.

4492. A cystic tumour of the right ovary, injected. It consists of a large cyst, and projecting into it is a cystic mass itself containing numerous secondary growths, which communicate with each other by fusion and wasting of their walls. The outer part of the main cyst is in most parts smooth and freely supplied with vessels.

From a lady, aged 33. She had been married for ten years, and was only once pregnant, that pregnancy being very shortly after marriage and ending at the sixth month. She then became subject to various disturbances of the pelvic viscera, and after an attack of pain in their neighbourhood an abdominal tumour was detected. It increased very rapidly, and was successfully removed a few months later.

For a full account of the case, see 'Diseases of the Ovaries,' 1st edit. vol. i. p. 253.

Presented by Sir T. Spencer Wells, 1864.

4493. A very large multilocular ovarian cyst, injected and prepared so as to show the relation of the secondary cysts both to its walls and to its cavity.

From a single woman, aged 41. After operation she had a low form of peritonitis, from which she recovered.

Presented by Sir T. Spencer Wells.

4494. A bladder, uterus, and vagina, with an enormous, but apparently simple, ovarian cyst, the blood-vessels of which have been minutely injected. In its present collapsed state, the cyst measures fifteen inches in length and six inches in diameter; its walls are tough, and about a line in thickness. Its outer surface is smooth, and in nearly every part free: some small portions of it are covered with false membrane.

The opposite ovary and all the other parts are healthy, except that a small calculus is attached to the surface of the interior of the bladder. *Presented by Anthony White, Esq.*

4495. An uterus, to the anterior and right lateral walls of which an ovarian cyst, nearly six inches in diameter, is attached. The walls of the cyst are a line and a half in thickness, and it contained a jelly-like fluid. Its lining membrane is, for the most part, smooth and polished; but in many situations is elevated, or beset with other cysts and growths projecting into the cavity of the great or parent cyst. Of these endogenous productions, some are small, oval, and spherical membranous cysts developed beneath the lining membrane of the parent cyst, and raising it in low convex projections into the cavity. Others consist of groups of small, leaf-like, oval, narrowly pedunculated cysts, attached to the lining membrane of the parent cyst, and pendulous in its cavity. There is a small cyst in the opposite ovary. The uterus is healthy.

From a woman thirty years old, who died with enteritis, apparently unconnected with the ovarian disease.

From the Museum of Robert Liston, Esq.

4496. An ovarian cyst, dried. It measures four feet in circumference in one direction, and three feet in another. It is a single cyst, but slightly constricted, with an imperfect partition near its middle. Large blood-vessels ramify upon its surface.

The history of the case is recorded by Mr. P. M. Martineau, Surgeon to the Norfolk and Norwich Hospital, in the 'Philosophical Transactions' for 1784, vol. lxxiv. p. 471.

The patient was 27 years old when the disease commenced, after a miscarriage of her first child. Between the year 1757 and August 1783, when she died, she underwent the operation of tapping eighty times; and in these operations there were, altogether, removed from her 6631 pints of fluid, or upwards of thirteen hogsheads. "One hundred and eight pints was the largest quantity ever taken away at one time; she was never tapped more than five times in one year, and the largest quantity in a year was four hundred and ninety-five pints. The most fluid collected in the shortest space of time was ninety pints in seven weeks, from July 24 to September 10, 1780 which is very nearly two pints a day.

"On the 10th of August, 1783, the poor woman died. On the following day, on opening the body, seventy-eight pints of clear fluid were drawn off: supposing, therefore, all the fluid to have been taken at the last operation, then in three weeks she had collected seventy-eight pints, which is more than three pints and a half each day—a quantity far exceeding what she had taken.

"The disease was situated in the left ovarium.

"The sac is in the collection of John Hunter, Esquire."

4497. An ovarian cyst, nearly as large as that last described.

Hunterian.

4498. An ovarian cyst, the walls of which are almost completely ossified. The formation of bone appears to have commenced at numerous distinct points in the membrane of the cyst, from which extending, several thin round plates, somewhat like the bones of a fœtal head, have been produced, and these in many places have coalesced at their margins, or are connected by narrow processes extending from one to the other. The cavity of the cyst is single; it measures seven inches in diameter. *Hunterian.*

4498 A. A portion of an ovarian cyst everted, showing a mass of small cysts and solid papillomatous growths attached to a limited region of the internal surface. The specimen shows the early stage of formation of secondary cysts, and also demonstrates the origin of growths which often increase so as to convert a cyst into a solid tumour, and even to perforate the cyst-walls.

Presented by Sir T. Spencer Wells, 1865.

4498 B. A small multilocular cystic tumour of the ovary. Some of the cysts contain soft, pedunculated, very finely nodular, intra-cystic growths. The greater part of its surface is covered with similar, but more flocculent and finely papillary masses.

Microscopically, the intra-cystic growths were composed of soft fibrillar or mucous connective tissue, covered with a layer of columnar epithelium, which in places formed small papillæ. The growths on the surface of the tumour, however, possessed the gland-like structure commonly found in ovarian cystic growths, and their surfaces were branched and papillary.

Ovariotomy was performed in this case; and at the same time some papillary masses were removed from the pelvis. These

recurred, and death took place with general dissemination of the disease over the peritoneal cavity, but with no secondary deposits in other parts.

Presented by Lawson Tait, Esq., 1883.

Proliferous Cysts with Papillomatous Intracystic Growths.

4499, 4500. A pair of diseased ovaries. From the surface of the smaller specimen projects a cyst about an inch in its longest diameter; small papillomatous growths spring from its inner wall; the remainder of the ovary, though enlarged, is not irregularly distended by cysts. The larger specimen shows a similar but much larger cyst, also containing papillary growths; in its upper wall, towards the ovary, a few follicles can be detected. Posteriorly the ovary can be seen, little altered in form, but bearing at one extremity a cyst which contains papillary growths and secondary cysts. These papillary growths arise from relics of the Wolffian body in the hilum of the ovary, or in the vertical tubes of the parovarium. As may be seen in these specimens, papillary cysts do not at first encroach upon the tissue of the parenchyma of the ovary. (Compare the larger with No. 275, where the parenchyma is already completely invaded by simple cystic disease, which arises in the parenchyma.—See Trans. Path. Soc. vol. xxxiii. p. 207, 1882.)

These ovaries were removed from a young woman, with the object of curing profuse menorrhagia, which had for some time greatly weakened her.

Presented by Dr. G. G. Bantock, 1881.

4500 A. A large cyst, which was attached to a broad ligament. The posterior portion of the cyst is occupied by a large elevation covered with papillomatous growths; the tissue of which the elevation is composed contains many small cysts filled with glairy fluid.

The papillomatous masses consisted microscopically of soft connective tissue, and were covered with ciliated cylindrical epithelial cells; tubules lined with cylindrical epithelium, resembling gland-tubules, were interspersed in the subjacent tissue and in places opened on the surface between the papillæ.

The cyst was removed from a woman, aged 30; it had no pedicle, and was enucleated from the broad ligament.

Presented by J. Knowsley Thornton, Esq., 1881.

4500 B. A large cyst, which apparently originated within the hilum of an ovary. It has insinuated itself between the layers of the broad ligament, and projects equally on each side of the Fallopian tube, which is much elongated, and passes over its upper surface. The inner surface of the cyst, with the exception of a small patch of papillary growths, is smooth.

The specimen is represented and described in Mr. Doran's book, 'Tumours of the Ovary,' p. 62?.

Presented by Dr. G. G. Bantock, 1884.

4501. An uterus with its appendages. A mass of finely lobulated and pedunculated growths springs from the site of each ovary, the substance of which, with follicles, was discovered on close search at the root of the growths. These growths were probably enclosed, at an early stage, in a cyst-wall.

These parts were removed, after death, from the body of a young single lady, who died of some visceral affection.

Presented by P. Hardey, Esq., 1870.

4502. An ovary divided into two parts by a vertical incision. Its surface is covered with papillary vegetations, and its interior contains small cysts, some filled with clot; the largest cyst is filled with a pale yellow mass, proved, by chemical tests, to be purely albuminous; it is probably altered blood-clot. The papillæ were probably enclosed, at an earlier stage, by a cyst-wall, as in the preceding specimen.

From a young woman. The disease caused ascites. On opening the abdominal cavity and clearing out the fluid from the peritoneum both ovaries were found in this condition. The opposite ovary is in the museum of Guy's Hospital.

Presented by Arthur Durham, Esq., 1879.

Changes in Cyst-walls.

4503. A portion of the wall of a large ovarian cyst minutely injected. Its inner surface shows numerous irregular vascular areas intersecting one another; they present diverging white lines like cicatricial tissue, and are separated by tracts

of a denser and more uniform character, and of an ochre-yellow colour, owing to altered blood-pigment.

On microscopical examination the epithelial layer, as seen on the wall of an ovarian cyst in earlier stages of the disease, was only to be found on the vascular areas.

Presented by Charles Stewart, Esq., 1871.

4503 A. A portion of the main wall of a large ovarian cyst, showing large elevated septa, the remains of secondary cysts that have broken down. On one of these septa two small thin-walled cysts have developed.

In other parts of the tumour several similar thin-walled cysts were formed, some over two inches in diameter.

4504. A portion of the outer wall of a multilocular ovarian cyst. A depression, almost perfectly circular, is seen on its inner aspect. The lining membrane of the depression has been stained with carmine. Numerous secondary cysts projected from the inner surface of the outer wall of the parent-cyst. Some showed small or large circular apertures by which they communicated with the main cyst-cavity, others were undergoing more advanced stages of effacement, the extreme degree being represented by the depression in this specimen.

From a young woman aged 23. The tumour had been observed for eighteen months, when it was removed and found to be a large multilocular ovarian cyst, filled with glairy brown fluid.

Presented by Alban Doran, Esq., 1879.

4504 A. A portion of the main or outer wall of a large multilocular ovarian cyst. A secondary cyst developed in the wall projects externally as a digital protrusion over one inch in depth and very thin-walled. It has ruptured internally, as may be seen at the back of the specimen, and communicates with the main cavity of the tumour by a wide circular orifice.

In other parts of the same tumour several secondary cysts had ruptured internally. In the condition shown in this specimen, rupture and escape of the contents of the tumour into the perito-

neum generally occurs before the secondary cyst has projected so freely. (Trans. Obstet. Soc. vol. xxvi. p. 118, 1884.)

Presented by Alban Doran, Esq., 1884.

4505. A portion of the wall of an ovarian cyst, showing a large cicatrix, the tissue of which is partly calcified. The cyst had ruptured and remained, for a time, collapsed; on its filling again, ovariotomy was performed. This cicatrix lay on the anterior surface of the cyst, close under the abdominal walls.

Presented by J. Knowsley Thornton, Esq., 1881.

4505 A. A portion of the wall of a multilocular ovarian cyst, showing a large vein with numerous branches, all obstructed by a clot. The accompanying arteries were also plugged. The remains of septa, resulting from the breaking down of secondary cysts, may be seen in the lower part of the specimen.

The wall of the cyst was much atrophied in several places through obstruction of its nutrient vessels, but when it was removed rupture had not occurred.

Presented by J. Knowsley Thornton, Esq., 1884.

Dermoid Cysts.

4506. An ovary enlarged, measuring about three inches in its longest diameter. It contains one cystic cavity filled with a mass of fat and short hairs; in the stroma of the ovary, close to the cyst, are smaller cavities, filled, when fresh, with liquid oil.

From a woman, aged 53. The opposite ovary was converted into a large dermoid cyst; and the liver, stomach, and sigmoid flexure were cancerous.

Presented by J. Knowsley Thornton, Esq., 1882.

4507. An ovary, in which a cyst, half an inch in diameter, is filled with a bright-yellow fatty substance, and a few small hairs. The cyst has thin membranous walls, and altogether presents the ordinary appearance of a distended Graafian vesicle. There are some similar smaller cysts by its side.

Hunterian.

4508. The Fallopian tube and ovary of a young woman 18 years of age, whose hymen was perfect. The ovary contains a cyst two inches in diameter, and with walls a line in thickness, within which there is a second cyst of rather smaller size and with thin walls. This second cyst is filled with a mass of fat and brown hair irregularly mixed, as if they had been rolled together; and at one side of it there is a firm substance like a piece of skin, upon which several fine large hairs and an imperfectly formed tooth are implanted. There is also a small oval cyst attached by a pedicle to the Fallopian tube. *Hunterian.*

4509. An uterus, to which a large thick-walled cyst is attached. The cyst is divided by partitions into three or four separate compartments, in one of which are a tuft of hair and a tooth, of the form of an incisor, firmly implanted in its walls. The interior of this compartment of the cyst has the general aspect of skin, with apertures like those of hair follicles. The interior of the others is smooth and polished. They all contained a cream-like fluid.

The patient was a lady, 30 years old, who from childhood had occasional difficulty in passing urine, but enjoyed good health. Two years before her death she had signs of inflammation of the bladder, which subsided in two months; but she remained subject to pain and swelling about the hypogastrium. About two months before her death she began to complain of pain, tenderness, and fulness in the left side of the abdomen; the urine being now secreted and discharged naturally, and a tumour, large and indurated, was felt extending from the spleen to the umbilicus. A week before death ascites ensued, and she died with extreme dyspnœa. Besides this cyst, which was supposed to be a diseased ovary, there was a similar large cyst, containing creamy fluid and hair, connected with the left ovary; and the urinary bladder was filled with a similar fluid, enclosing another tuft of hair.

The case is related by Dr. Phillips in the 'Medico-Chirurgical Transactions,' vol. ix. p. 427.

Presented by Dr. Phillips.

4510. A tough, thick-walled, ovarian cyst, which was filled with fat and hairs. It has been emptied and inverted, to show that a great part of its inner surface is covered with minute pedunculated wart-like bodies, of which some are nearly

isolated, but the greater part are arranged in close-set and elevated groups like warty growths. *Hunterian.*

4511. A dermoid cyst of the left ovary, partially laid open. From an elevated area on its inner wall grow several locks of curly light brown hair together with two teeth resembling canines, the ends of their fangs lying close together, the crowns pointing in opposite directions. The area whence the teeth and hair grow is marked by numerous small pits, the orifices of sebaceous glands which secreted a material precisely resembling normal sebaceous matter. Similar areæ and also thin-walled secondary cysts spring from other points of the inner wall of the main cyst.

From an unmarried Mulatto lady. Symptoms of ovarian tumour were first observed when she was 18 years old; it was not until several years later that her abdomen began to swell. A few months later she was tapped; eight months after the first tapping fourteen quarts of fluid were removed; six months after the second tapping the tumour was removed. She was in perfect health two years after the operation. The case is recorded in the donor's work on 'Diseases of the Ovaries,' 1st ed. vol. i. p. 146.

Presented by Sir T. Spencer Wells, 1863.

4511 A. A portion of a dermoid ovarian cyst with a nipple-like mass, about one inch in length, attached to its inner surface. It is covered with dark-coloured, fine hair, and dotted with minute depressions, which are the openings of sebaceous glands.

In minute structure it consisted of fat, covered with skin, having sebaceous and sudoriparous glands, and all the other characters of the integuments.

4512. A small dentigerous cyst of an ovary. Its walls are very thick, and a few shreds of lymph hang from the outer surface. In the upper part of the inner wall is developed a semilunar plate of porous bone over two inches in length, bearing towards its inner extremity several teeth, well formed, and resembling small molars and bicuspids. The bone is covered by a soft membrane, bearing a kind of sebaceous follicle and very short hairs: the fang of one of

the teeth grows entirely from this membrane, and is quite unconnected with the bone by any socket. Part of the membrane is stripped off the bone, and bristles are passed between them.

From a girl aged 22. The tumour had been observed for about a year, and at one time there was severe pain in the neighbourhood of the growth, with other symptoms of inflammation. It never grew to any great size, but was removed in case of serious complications from a second attack of inflammation. The tumour was filled with a few pints of a thick pultaceous matter resembling dark semisolid fæces; it was perfectly odourless. The omentum adhered very firmly to the tumour. The patient rapidly recovered.

Presented by Dr. G. Granville Bantock, 1879.

4513. An ovarian cyst, which contained hair, teeth, and fatty matter. Its exterior is covered with long shaggy adhesions, through which it was supplied with sufficient blood to maintain its nutrition, the pedicle having atrophied. From one point of its inner wall grows a thick mass of hair, and from another, low down and to the left, spring four teeth, the crowns of which, all bearing more than one cusp, are very conspicuous; a fifth tooth remains uncut. These teeth grow directly from the wall, and there are no spiculæ of bone to be found in any part of the cyst. To the right of the teeth is seen a rounded cord, attached to the cyst-wall at each end by a tendinous insertion, but free in the middle.

On microscopical examination this cord was found to consist of well-formed connective tissue mixed with embryonic structure, such as is seen in the umbilical cord. No muscular fibres could be found. The cavity of the cyst contained masses of hair in balls, mixed with fatty material.

Presented by Sir T. Spencer Wells, 1873.

4514. A small ovarian cyst. The walls are thin, and from their inner aspect springs a secondary dermoid cyst which has been laid open; behind this cyst is a flattened mass, the remains of the normal ovary; it is exposed posteriorly, showing several Graafian follicles. The general inner surface of the main cyst is smooth; the cavity of the dermoid cyst contains a mass of fine, light-coloured hair, which

grows from a projection covered by true skin and containing cartilage.

From a girl aged 8. The operation was performed three months after the tumour was first observed, and nineteen days after she had been tapped. She recovered rapidly. The case is recorded in the 'British Medical Journal,' vol. i. 1874, p. 342, and in the donor's work 'On Ovarian and Uterine Tumours,' p. 42, 1882, and the pathological features are described in the Trans. Path. Soc. vol. xxv. p. 190. See also No. 4527.

Presented by Sir T. Spencer Wells, 1874.

4515. A small ovarian cyst, with thin walls, from the interior of which grow collections of long, fine, fair hairs. The lining of the interior of the cyst consists entirely of skin; at one part is a bridge of tissue, attached at each extremity to the inner wall, about an inch in length and over half an inch in breadth.

Removed from a German lady, a widow, 49 years of age. The opposite ovary was converted into a multilocular cyst, containing thirty-five pints of fluid. The patient recovered.

Presented by Sir T. Spencer Wells, 1874.

4516. A left ovary converted into a cystic body of very irregular shape. It consists of three large cysts from two to three inches in diameter, arranged in an irregular manner, the middle cyst bulging forwards, the inner and outer cysts projecting backwards towards each other. They are laid open to show that they are divided by more or less complete septa. Smaller cysts project from the outer surface of the external cyst. The fringes of the Fallopian tube are abnormally developed, and one sessile and two pedunculated bodies project from a small cyst which occupies the precise situation of the parovarium. A pedunculated body, not cystic, hangs from the tube half an inch behind the fimbriæ. The cysts were filled with grumous sebaceous material.

From a woman aged 36. A larger dermoid cyst existed on the opposite side.

Presented by J. Knowsley Thornton, Esq., 1879.

4517. A spherical, thinly walled, ovarian cyst, nearly four inches in diameter, filled with a firm mass of fatty matter and hair, pressed together into a ball.

From the Museum of Sir A. P. Cooper.

4518. Four small portions of a substance like an ill-formed horn, such as grows sometimes from a diseased hair-follicle. They were removed from an ovarian cyst.

From the Museum of John Heaviside, Esq.

4519. A portion of bone, from an ovarian cyst. It is irregular in its form, but at one margin has three deep cavities like alveoli, in one of which is a molar tooth almost perfectly formed.

From an unmarried woman, 27 years old, whose hymen was perfect.

Presented by Sir B. C. Brodie.

4520. A large ovarian cyst, in the thick membranous walls of which several irregular plates of bone are imbedded. In one of these are two well-formed incisor teeth, with long fangs. *From the Museum of Sir A. P. Cooper.*

4521. The bony contents of a dermoid ovarian cyst, being a collection of extremely irregular plates and spicules of bone containing teeth lodged in deep alveoli and mostly resembling bicuspids.

From a woman aged 27. The tumour was of such extreme hardness as to resemble a fibro-cystic uterine growth. Its surface was uneven, its interior multilocular, consisting of chambers lined with skin and subcutaneous adipose tissue. The skin contained numerous sebaceous glands, and from it grew light-coloured straight hairs. The chambers were distended with a yellowish-white grumous fatty emulsion with loose hair matted into balls. The bony growths were embedded in the stroma, and projected into the chambers of the cyst. The opposite ovary was healthy, and the patient had a child nine months after the removal of the cyst. (See the donor's work 'On Ovarian and Uterine Tumours,' p. 41, 1884.)

Presented by Sir T. Spencer Wells, 1872.

4522. A large irregular bony plate containing teeth, from a dermoid ovarian cyst.

From a lady aged 39. The tumour was hard and nodular, and consisted of three parts: the greater part of the ovary; the cyst which contained this plate and a semitransparent, yellow, colloid substance full of cholesterine crystals and pellets of hair; and thirdly, a large cyst with fluid. The opposite ovary was healthy. The patient married and had a child after the operation. (See the donor's work 'On Ovarian and Uterine Tumours,' p. 42, 1882, where a drawing of the tumour may be found.)

Presented by Sir T. Spencer Wells, 1872.

4523. A collection of very irregular bony growths from a dermoid cyst of the ovary.

From a woman, aged 22. The tumour was a multilocular cyst with thick fibrous walls and septa, forming chambers, some lined with skin bearing sebaceous glands and hairs, with teeth and bone imbedded in the stroma. Part of the tumour was not dermoid, but consisted of secondary cysts lined with epithelium and containing a colloid fluid; the liquid contents of the dermoid portion were semitransparent, ropy, and mixed with crystals of cholesterine. The opposite ovary was healthy. (See the donor's 'Diseases of ths Ovaries,' p. 74, 1872.)

Presented by Sir T. Spencer Wells, 1872.

4524, 4525, 4526. Three similar preparations from a dermoid ovarian cyst.

From a girl aged 18. She had not begun to menstruate till six months before the removal of the tumour, which she had noticed for four years. The external surface of the tumour was extremely irregular, some of the protuberances communicating with the large cyst by short hollow pedicles. The interior was one large cyst with thick walls, containing many other cysts within growing from the inner surface. Many parts of the walls of these cysts were cartilaginous, with centres of ossification; the lining membrane resembled skin, and the contents were an emulsion of fat and mucin with scanty collections of hair-balls. These specimens lay in the stroma of the tumour. The uterus and opposite ovary were scarcely developed. (See 'Diseases of the Ovaries,' 1872, p. 75.)

Presented by Sir T. Spencer Wells, 1872.

4527. A plate of bone and a tooth from the dermoid cyst shown in No. 4514. *Presented by Sir T. Spencer Wells*, 1873.

Solid Tumours and other Morbid Growths.

4527 A. A shrunken ovary containing a large corpus fibrosum—that is, a nodule of fibrous tissue developed in a Graafian follicle. *Presented by Alban Doran Esq.*, 1882.

4527 B. Two sections of a large tumour of the ovary, the cut surfaces of which are uniform, dense, and fibrous.

Examined with the microscope the tumour was found to consist entirely of dense fasciculi of fibrous tissue.

Presented by Lawson Tait, Esq., 1882.

4527 C. One half of a fibrous tumour, of oval form, 7 inches in length, 4½ in breadth, and weighing 2 lb. 3 oz. Its surface is smooth, and the section shows a dense tissue intersected by bands of fibrous tissue. On one side of the tumour, near its centre, a narrow rounded pedicle is cut across longitudinally.

Microscopically it consisted entirely of well-formed fibrous tissue; and in neither the tumour nor the pedicle could a trace of ovarian tissue be found.

The tumour was removed by operation from the broad ligament in the situation of an ovary, which could not be found on that side.

Presented by Sir T. Spencer Wells, 1883.

4527 D. One half of an oval fibrous tumour of the ovary, which measured 7½ inches in its long diameter, and weighed 4 lb 6 oz. Its section is firm, traversed by glistening bands of fibrous tissue, and has the appearance of a uterine fibro-myoma.

Microscopically it consisted of loose connective tissue, containing connective-tissue corpuscles with processes continuous with the fibrils and many scattered round nuclei.

From a widow lady, aged 66.

Presented by Sir T. Spencer Wells, 1885.

4528. A half-section of a large fibro-myomatous tumour of the ovary. The outer part presents very large smooth tubercles. The cut surface shows numerous interlacing white fibres, with a more homogeneous white material between them, and a

few minute cysts. The Fallopian tube is stretched and lengthened, and the broad ligament is not involved in the growth, being thin and quite natural in appearance.

On microscopic examination the tumour was found to consist of white fibrous tissue, with a few distinct plain muscular fibres. When fresh it weighed 15 lb. and was 31 inches in circumference.

From a single lady, aged 68, in whom it had been growing for over eight years. Its removal required an abdominal incision eight inches long. The patient made a good recovery, and was in good health two years later.

Presented by Sir T. Spencer Wells, 1879.

4529. A fibro-myomatous tumour of the left ovary. It is oblong, preserving the form of the normal organ ; its outer surface is smooth and but slightly lobulated. Its interior is perfectly uniform on section, and shows areolæ of white fibres with dull yellow material between them. A few minute cysts, with perfectly smooth walls, are to be seen; the tumour-substance around them is in no way softened, and they are probably Graafian follicles. The broad ligament is thickened and adherent to the tumour, but apparently not invaded by it; near the flattened fimbriæ of the Fallopian tube the "hydatid" may be seen, enlarged to an inch in length.

Under the microscope the tumour was found to consist of white fibrous tissue, with numerous plain muscular fibres.

From a woman aged 46, married two years but sterile. The right ovary and uterus were healthy. (See MS. Notes, vol. i. p. 443.)

Presented by Sir T. Spencer Wells, 1872.

4530. A half-section of a solid ovarian tumour. The outer surface is extremely irregular, and has risen high on each side of the pedicle. The cut surface is quite uniform and shows numerous areolæ ; a few minute smooth-walled spaces are seen, some very near the surface, but there appear no spaces formed by breaking-down of tissue.

On microscopical examination the tumour was found to consist of bundles of white fibrous tissue, having, in some parts, small immature cells in loculi between them.

From a woman aged 47. It had existed for seven years, and during the last few months before operation had increased rapidly in size. The patient died after its removal.

Presented by Lawson Tait, Esq., 1874.

4531. A half-section of a solid, chiefly fibrous, ovarian tumour, with the Fallopian tube and intermediate portion of the broad ligament. The surface of the growth is rounded and slightly irregular. The interior, exposed by section, is almost uniform, consisting of areolæ of white fibres, with a pale buff-coloured material in their interstices; there are a few minute cysts, and in several places an extensive breaking-down of tissue has taken place.

On microscopical examination it was found to consist chiefly of white fibrous with a little yellow elastic tissue and a few plain muscular fibres. In the neighbourhood of the cysts and broken-down portions, round cells were found.

From a single lady, aged 24. It had been observed for eighteen months, and was complicated by ascites. A year after the operation she married, and has since borne children.

Presented by Sir T. Spencer Wells, 1872.

4531 A. A fibro-cystic tumour of an ovary. It measures nearly eight inches in its long diameter; its section is firm, indistinctly fibrous, and scattered over it are numerous cysts varying from minute points to cavities having a diameter of two and a half inches. The smaller cysts are filled with colloid material.

Microscopically the tumour was composed of loose areolar connective tissue; but at one part small round cells were abundant. No trace of the epithelial elements of the ovary were found. (See Brit. Med. Journ. Sept. 2nd, 1882.)

Presented by Lawson Tait, Esq., 1884.

4532. An uterus, with the broad ligaments &c. A round flattened tumour, of uncertain nature, upwards of two inches in diameter, is connected with the right ovary. A small, pedunculated, mucous polypus is attached to the interior of the os uteri. The other parts are healthy.

Presented by Sir William Blizard.

4532 A. Two ovaries laid open. The lower one contains a circumscribed, rounded, firm tumour, indistinctly fibrous in section, and over an inch in diameter. In other parts of this ovary are several cysts, the larger of which contained fatty matter. The upper ovary is of smaller size and converted into a uniform, firm, fibrous texture, probably as the result of sclerosis.

Microscopically the tumour consisted of an ill-formed fibrous tissue, with elongated nuclei, enclosing rounded or elongated well-defined alveoli filled with epithelium. The epithelial cells were for the most part fused into a mass, and their nuclei were round or elongated. Fasciculi of spindle-cells were observed around some of the alveoli.

The patient had myoma of the uterus, with menorrhagia; the ovaries were removed to stop the menorrhagia.

Presented by Lawson Tait, Esq., 1884.

4532 B. One half of a sarcoma of an ovary, measuring five and a half by three and a half inches. Its surface is even; its section soft, succulent, and marbled as if by large alveoli.

Microscopically it consisted of a loose reticular connective tissue infiltrated with round cells, each containing a large nucleus surrounded by clear granular protoplasm. In some parts the cells were generally diffused, in others confined to ill-defined groups.

Removed by operation from a woman aged 27. Three months before the birth of a child a tumour was felt on the right side of the middle line. The abdomen enlarged gradually with ascites, for which she was twice tapped. The tumour originated in the right ovary, had an ordinary pedicle, and was only adherent to the omentum.

Presented by William Cadge, Esq., 1884.

4533. One half of an ovary, showing a well-circumscribed sarcomatous growth occupying its outer part, close under the fimbriæ of the Fallopian tube. The growth projects externally and inferiorly; posteriorly, the ovary is very irregular and tuberous, probably from similar growths. The cut surface of the growth is white, soft, uniform, and lobulated. The cut surface of the stroma internal to the growth appeared to have undergone mucoid changes. In it are two fibrous bodies: one at the internal and inferior border is recognizable by its concave exposed surface; these are probably altered follicles. The growth appeared

to be chiefly made up of spindle-cells. (See MS. Notes, vol. iii. p. 191.)

From a woman aged 45. The opposite ovary was converted into a large solid, sarcomatous tumour. Both were removed, and she made a good recovery.

Presented by J. Knowsley Thornton, Esq., 1881.

4533 A. One half of a sarcoma of the ovary, six inches in length and five in width. Its surface is smooth, and its section is uniform, pale, and fleshy, or indistinctly fibrillar. The Fallopian tube is attached to its upper surface.

Microscopically the tumour consisted of fibrillar connective tissue, enclosing numerous round nuclei in a small alveolar meshwork. (See A. Doran, 'Tumours of the Ovary,' p. 100.)

Removed from a woman aged 25. The left ovary was excised, as it was in a suspicious condition.

Presented by Dr. G. Granville Bantock, 1883.

4534. An uterus and its appendages. The ovaries are converted into solid tumours respectively measuring six and four inches in their longest diameters. The tumours are lobulated and finely nodulated on the surface, dense, homogeneous, or in parts obscurely fibrous in section, and dotted with minute cysts. The smaller tumour also contains near its surface a cyst one inch in diameter.

Microscopically the tumours were composed of fibrous tissue containing connective-tissue corpuscles and minute smoothly-walled cysts.

From a woman aged 36. An abdominal tumour had been noticed for five years. A few months before death she lost flesh; ascites supervened, followed by pleurisy, with which she died. (The case is described and figured in the Trans. Obstet. Soc. vol. xxi. 1879, p. 276.)

Presented by Charles W. Cullingworth, Esq.

4535. An uterus, with two diseased ovaries. The uterus is small and flattened and connected with the ovaries in the normal manner, but the Fallopian tube and ovarian ligaments are lengthened. The outer surfaces of both ovaries are very irregular and lobulated. The cut surface of the smaller or right tumour shows a stroma of a uniform,

compact, soft, white substance, with numerous irregular cystic cavities containing a yellowish brown, less compact material. The left tumour is much larger, about five inches deep, and contains in its right stroma two large cysts filled with medullary substance. The broad ligament between the tubes and the ovaries is short and thickened, as though partly involved in the growth.

From a girl, aged 19. Three months before death she was admitted into St. Bartholomew's Hospital with circular, elevated, reddish, cancerous tubercles below the left breast. They enlarged, ulcerated, and became very painful. She died, apparently of exhaustion.

Presented by Sir William Lawrence.

4536. An uterus, with the ovaries, both of which are converted into nodular masses of dense and firm substance, probably medullary sarcoma. The masses have each an irregularly oval form; one of them measures three and a half and the other two and a half inches in its chief diameter; and a section of the larger displays a uniform pale basis, with opaque white fibres traversing it in various directions and imperfectly partitioning it into round lobes.

From the Museum of John Heaviside, Esq.

4537. An uterus, with the broad ligaments and ovaries, and a portion of a large tumour connected with the left ovary, and apparently composed of lobulated medullary substance. The right ovary and other parts are healthy. *Hunterian.*

4538. A medullary cancer of the ovary, laid-open to show its interior. It forms a solid tumour, about six and a half inches long, retaining the shape of the normal ovary; the surface is irregular and fissured. The cut surface is of a uniform pale-yellowish colour, with several tracts of tissue less compact than the rest breaking-down into cysts, and with a few minute cysts, the walls of which are distinct and smooth, near the attachment of the broad ligament, which does not appear to be involved in the growth.

From a single lady, aged 18. The tumour had formed rapidly, and was removed, but death occurred nine days after the operation.

Presented by Sir T. Spencer Wells, 1875.

4539. An uterus, with the ovaries and other adjacent parts. There is a well-formed fœtus of about five months old, with its membranes and placenta perfect, within the uterus. The ovaries are both extensively diseased; they are both enlarged, the left to a diameter of two inches, the right to nearly four inches in diameter; the tissue of the left is soft, flocculent, and vascular; that of the right is replaced by a collection of cysts, most of which are filled with soft, laminated, and apparently medullary substance.

4540. A half-section of a large solid tumour of the ovary. The superficial portion is much tuberculated; the cut surface is of a dull yellow colour, with numerous fibrous intersecting bands; the area of looser tissue, near the centre, was gelatinous.

On microscopic examination the tumour appeared to be made up of a loose fibrous stroma, the spaces between the fibres being crowded with cells, apparently epithelial.

From a girl aged 15. She had wasted very much before the tumour was removed. (See 'Medical Times,' 1883, vol. i. p. 211.)

Presented by J. Knowsley Thornton, Esq., 1881.

4540 A. One half of a large tumour involving an ovary, and of which the longest diameter measures ten inches. Its surface is smooth, and covered by a layer of fibrous tissue. Its section is firm, uniform, and has a glandular appearance; but below, its substance is broken-up. In some places it is marked with minute depressions, and a few small cysts are scattered about it.

Under the microscope it appeared composed of alveoli bounded by narrow bands of dense, well-formed, fibrous tissue. They contained round and oval hyaline epithelial cells closely massed together, and in places small round nucleated cells. Its microscopical characters therefore resembled cancer. (See A. Doran, 'Tumours of the Ovary,' p. 102–3.)

The tumour was removed by ovariotomy from a young lady, aged 16, who had never menstruated. It had been observed for nearly eighteen months, and emaciation progressed rather rapidly. It formed an elastic, obscurely fluctuating growth, extending two inches above the umbilicus. At the operation, seven pints of ascitic fluid were found in the peritoneal cavity, and the tumour was strongly adherent to the abdominal walls, intestines, omentum, and liver. The patient was in good health two years after the operation.

Presented by Sir T. Spencer Wells, 1883.

4541. Sections of one of the ovaries of a woman who died with diffused hard cancer of the stomach. It is converted into a hard and externally nodulated mass of a very dense, uniform, and compact white substance, with an obscure fibrous texture.

The other ovary, similarly diseased, is described as No. 508.

Presented by George Saunders, Esq.

4542. An ovary, injected and dried, exhibiting large irregular masses of earthy matter in its interior.

From a woman who had hard cancer of the breast.

From the Museum of Sir A. P. Cooper.

4543. A colloid tumour of the ovary. Its connection with the Fallopian tube is retained, and the intermediate part of the broad ligament appears thin and unaffected. The exterior of the tumour is irregular and invested by a capsule, which, behind, is reflected inferiorly, exposing the highly lobulated tumour-tissue. This tissue, as seen in section from the front of the specimen, is of a uniform whitish-brown colour, with hardly any visible trace of fibrillation. A cavity formed by the breaking-down of its interior contained a dark grumous fluid. The solid part was, probably, originally intracystic.

From a lady, aged 66, who for six months had suffered from occasional abdominal pain.

The colon was affected with a similar growth (see No. 2535), and numerous small deposits were found on the peritoneum. (See Trans. Path. Soc. vol. xvii. p. 120.)

Presented by T. Blizard Curling, Esq., 1866.

4544. An ovary, with a section of a cyst attached to its surface, from a woman who died with cancer of the breast. The cyst is round, flattened, and about three fourths of an inch in diameter. Part of its cavity is occupied with a growth of dark soft substance, traversed by white lines, somewhat like a piece of spleen; the rest was filled with a bloody fluid. *From the Museum of Sir A. P. Cooper.*

4545. An uterus with the ovaries. The latter appear to be replaced, the one by a cyst with tough-looking walls, the other in part by a firm-looking growth which, when fresh, was faintly shaded with melanotic pigment.

Presented by Francis Kiernan, Esq., 1871.

4546. Section of an ovary, greatly enlarged by the deposition of melanotic matter, by which it is converted into a uniformly black soft mass. Its peritoneal covering has a singularly mottled appearance, from the various shades of colour produced by the melanotic deposits in and beneath it.

The patient was a woman, 42 years old, the mother of ten children. She was ill for ten weeks. A circumscribed movable swelling, painful on pressure, was felt at the lower part of the abdomen, and there were several small tumours beneath the integuments of the abdomen and other parts, which after death were found to be cysts filled with a dark pulpy substance. She had lancinating pains in the loins, abdomen, and extremities; and, at the last, hectic fever with copious expectoration, and occasional vomiting of dark-coloured fluid.

Nearly the whole of the peritoneum was spotted and streaked with deposits of melanotic matter, and there were several globular melanotic tumours in the omentum. The pleura, lungs, and pericardium were similarly diseased. The sternum, ribs, parietal and occipital bones, and all the inner table of the skull, were black, brittle, and unusually soft; and there were dark striæ on the membranes at the base of the brain. The uterus appeared healthy.

From the Museum of Robert Liston, Esq.

4547. An uterus, with the ovaries, both of which are enlarged to between four and five inches in diameter, and filled with soft, deep black, melanotic substance.

The patient was 23 years old. Her eye was removed, in consequence of melanosis, three years before her death. She had melanotic tumours in the liver, heart, and several other parts, of which specimens are in the Museum of St. Bartholomew's Hospital.

The case is published in the 'London Medical Gazette,' 1845, vol. xxxvi. p. 961.

Presented by Sir William Lawrence.

4548. An uterus and ovaries. In each of the ovaries a small, soft, dark growth may be seen, which was believed to be

melanotic. Pigment appears to be deposited in very small quantity on the walls of a corpus luteum, on the body of the uterus, and on one of the fimbriæ of the Fallopian tube.

Presented by Francis Kiernan, Esq., 1871.

Results of Operations and Accidents.

Twisting of Pedicle.

4549. An ovarian cyst containing fatty matter, and without any trace of a pedicle; it received its nutrition from the blood-vessels of the piece of omentum adherent to its upper surface. It had gradually become detached from its pedicle, the remains of which are shown in the next specimen.

From a woman aged 27. The cyst remained stationary for over seven years, but, causing her some trouble during labour, it was removed, together with the right ovary, which was in a state of incipient cystic disease. She made a good recovery. (See Trans. Obstet. Soc. 1881, vol. xxiii. p. 104.)

Presented by J. Knowsley Thornton, Esq., 1881.

4550. The dilated and obstructed left Fallopian tube and broad ligament from the same patient as the last specimen. The pedicle of the cyst remains as a short thread of connective tissue, fat, and calcareous material; the closed end of the tube has been laid open.

Presented by J. Knowsley Thornton, Esq., 1881.

4550 A. The upper part of the wall of a small ovarian cyst, with its pedicle, and a portion of the Fallopian tube and broad ligament. The pedicle shows two complete twists.

From a young woman. The cyst had remained stationary in size for several years, and the twisted condition of the pedicle was discovered during the operation for its removal.

Presented by Dr. G. Granville Bantock, 1884.

4550 B. A left ovary containing a cyst about an inch long, exposed by the removal of part of its wall. The ovary is intimately adherent to the great omentum, and its pedicle, which includes the Fallopian tube, is greatly elongated and slightly twisted.

From a woman about 40 years of age, who suffered for several years from a papillomatous cystic tumour of the right ovary.

Shortly after recovering from confinement an operation was performed, and the diseased right ovary was found to have become detached from its pedicle through torsion. The left ovary was closely adherent to the back of the omentum, as shown in this specimen; it lay above the pelvic cavity almost at the level of the umbilicus.

Presented by Dr. G. Granville Bantock, 1884.

4551. A portion of the outer wall of a large multilocular ovarian cyst. It is covered externally with very close, shaggy adhesions of lymph, through which it received its blood-supply, its pedicle having long been twisted and reduced to a thin cord, with its arteries obliterated and its veins filled with clot.

From a woman aged 25. See A. Doran, 'Tumours of the Ovary,' p. 124.

Presented by Dr. G. Granville Bantock, 1880.

4552. A vein, with thickened walls, from the twisted pedicle of a large dermoid ovarian cyst. At one part it is dilated into a small, thin-walled, perfectly spherical cyst, which contained fluid blood.

From a woman aged 35. In ovariotomy two cysts were found, the uterus lying in front of them. The left cyst was a multilocular tumour of the left ovary, with a short, normal pedicle. The right was a spherical dermoid cyst; its pedicle had twisted about twice round its long axis, and was very thin. The patient recovered. See A. Doran, 'Tumours of the Ovary,' p. 125.

Presented by Dr. G. Granville Bantock, 1880.

4552 A. A right ovary enlarged to about three times its normal size. Its pedicle has become twisted and atrophied. When fresh this ovary contained a dense mass of black hair and fat and was very heavy.

From a woman aged 32. For eighteen months she suffered from pains in the abdomen and iliac fossæ, aggravated during pregnancy. A few months after parturition, a small cystic tumour being detected in the lower part of the abdomen, an operation was performed, and the tumour, a dermoid cyst of the left ovary, was removed. The right ovary, here preserved, was found in Douglas's pouch, with its pedicle twisted and atrophied, so as to interfere with its nutrition. It seems, from its weight, to have been the cause of the pain, for this ceased after the operation. (See Trans. Obstet. Soc. 1882.)

Presented by Alban Doran, Esq., 1882.

4552 B. A dermoid cyst, filled with fatty matter and dark brown hair, and measuring five inches in its long diameter. It was adherent to the great omentum, a portion of which is attached to its upper and back part.

It is probable that the cyst originated in the ovary, and that its pedicle had been severed by twisting.

From the same patient as No. 4643 A.

Presented by Sir T. Spencer Wells, 1883.

Effects of Tapping and Drainage.

4553. An ovarian cyst, contracted during chronic suppuration to a cavity measuring hardly two inches in its longest diameter. This cavity is lined with a layer of exuberant granulations, and communicates with the surface of the abdomen by a fistulous track about an inch in length, into which a blue rod has been passed. The integument around the orifice of this track is deeply puckered, and presents an old cicatrix. Posterior to the suppurating cyst is a second cyst, spherical, and about half an inch in diameter, which was transparent when fresh. Below the larger cyst is the fimbriated extremity of the Fallopian tube, which has acquired a communication with its cavity. Close to the fimbriæ is seen a very long, thin-walled, pedunculated body, probably a highly developed form of the "hydatid" often observed near the abdominal orifice of the tube.

From a woman aged 35. Two years and a half before the removal of this specimen she was suffering from ovarian dropsy. A surgeon made a deep incision into the cyst, which was allowed to discharge through the abdominal wound. The cyst became, as may here be seen, a mere abscess-cavity; its free discharge weakened the patient, and it was therefore removed, together with the tissues around the fistulous track. Recovery was complete, but protracted, the patient suffering from syphilis as well as from the prolonged discharge of pus.

Presented by J. Knowsley Thornton, Esq., 1879.

4554. A multilocular ovarian cyst, having one cavity about six inches in diameter, and much larger than the others which are below it, under a partial septum. The cyst is adherent to the abdominal wall, which shows a puckered cicatrix, corresponding to a band of tissue between it and the cyst-

wall. The cyst shows no layer of granulations on any point of its inner walls.

From a woman aged 49. Two years before the removal of this cyst a surgeon endeavoured to cure it by puncturing it and keeping a drainage-tube in its cavity. It discharged much clear fluid, but never suppurated; and when the tube was removed the communication between the cyst and the surface of the body rapidly healed-up, and the cyst refilled. It was therefore removed, with the adherent portion of integument, and the patient recovered perfectly.

Presented by J. Knowsley Thornton, Esq., 1879.

Effects of the Clamp.

4555. An uterus and appendages, with a portion of the abdominal wall, showing a nearly cicatrized wound, through which a large ovarian tumour was removed fourteen days before death. The edges of the wound are throughout their depth adherent to the stump of the ovarian pedicle, the cut surface of which lies at the lower part of the wound; higher up is a hard dark mass of thickened omentum adherent to the wound like the pedicle.

From a woman aged 30. The ovarian tumour was cystic; its pedicle was secured by a calliper-clamp and a small piece of omentum was kept outside the wound by two hare-lip pins. The clamp came away on the third day; on the twelfth symptoms of tetanus commenced, and the projecting piece of omentum and a live portion of the pedicle which protruded from the wound were cut away. Death ensued two days later. For a full account of the case see the donor's work 'Diseases of the Ovaries,' 1st ed. p. 105; also 'Medical Times and Gazette,' vol. ii. 1862, p. 27.

Presented by Sir T. Spencer Wells, 1863.

4556. An uterus and neighbouring parts, showing the condition of these structures ten months after recovery from ovariotomy. The stump of the pedicle of the right ovary appears absolutely continuous with the abdominal cicatrix. The left ovary is converted into a multilocular cyst four inches in diameter.

From a woman aged 33. A large multilocular cyst with gelatiniform contents was removed from her, and its pedicle was secured by a clamp. The left ovary was found healthy. The clamp came away on the eighth day. Eight months after, when in excellent health, she began to suffer from chronic intestinal

obstruction, which proved fatal in two months. Malignant stricture of the ileum near the cæcum was discovered. For a full account of the case see the donor's 'Diseases of the Ovaries,' 1st ed. vol. i. p. 6.

Presented by Sir T. Spencer Wells, 1865.

4557. An uterus and adjacent parts, from a woman who died two years after the removal of a large cyst to which both Fallopian tubes are attached. These tubes are much stretched and lost in the cicatricial tissue of the healed abdominal wound. The left ovary is small; it has been laid open; no Graafian vesicles appear on its cut surfaces.

From a woman aged 47. The pedicle of the diseased right ovary (which included both Fallopian tubes, the left having formed adhesions to the cyst) was secured by the clamp, which came away on the fifth day. She enjoyed very good health till shortly before her death, two years later, from hemiplegia. See 'Diseases of the Ovaries,' 1st ed. vol. i. p. 32.

Presented by Sir T. Spencer Wells, 1865.

4557 A. A portion of a scar, remaining after an operation of laparotomy, to the inner surface of which a left ovary and Fallopian tube are firmly attached. The ovary is soft but contains a recent corpus luteum. A small blood-cyst is situated near the extremity of the Fallopian tube.

These parts were removed in March 1883, from a single lady aged 32 years, from whom, in January 1874, an extra-ovarian cyst of the left ovary was taken. The ovary was left. The pedicle was secured with a clamp, and was drawn with the ovary close to the abdominal wound. The patient remained in good health until 1881 when she began to suffer from menstrual pain and from tenderness of the swollen end of the Fallopian tube in the cicatrix.

Presented by Sir T. Spencer Wells, 1883.

Effects of Ligature.

4558. The right half of an uterus with the stump of the pedicle of a cystic tumour of the right ovary, prepared to show the effects of ligature. The bands of soft, recent lymph, which covered the ligatures when the specimen was fresh, have been removed, and one of the ligatures is indicated by a

thin green glass-rod. The distal end of the pedicle is not sloughy; it has become united to the outer edge of the broad ligament by a band of well-organized lymph, under which a bent rod of blue glass has been passed.

From a woman aged 37. The pedicle was transfixed by four silk ligatures which were cut short and, after removal of the cyst, were returned, with the pedicle, into the abdominal cavity. She died from septicæmia on the sixth day after the operation. This specimen is figured, and the case fully described, in a paper by Mr. Doran, "On Complete Intra-peritoneal Ligature of the Pedicle in Ovariotomy," St. Bartholomew's Hospital Reports, vol. xiii. 1877.

Presented by Dr. G. Granville Bantock, 1877.

4559. The right half of an uterus seen from the front, with the stump of the pedicle of a multilocular tumour of the right ovary removed eight days before the death of the patient. A green glass-rod is passed through the sulcus which marks the position of the stout silk-ligature with which the pedicle was secured without transfixion. This ligature has become entirely hidden by the bulging of the tissues on each side, and by well-organized lymph thrown-out from those tissues across the groove it has formed. The free surface of the stump is covered with partially decolorized clot. The broad ligament below the stump is distended by extravasated coagulum.

From a girl, aged 24, in whom symptoms of tetanus appeared on the seventh day after removal of a parovarian cyst (No. 4589). They soon became very severe; trismus and spasm of the intercostal muscles were more marked than opisthotonos; and death occurred in about fifty hours. For a further account of this case see A. Doran, 'Tumours of the Ovary,' p. 141.

Presented by Dr. G. Granville Bantock, 1879.

4560. An uterus with an atrophied pedicle of a left ovarian tumour. This pedicle, the limits of which are indicated by two bristles, has degenerated into a small fleshy body bent on itself. Externally it has formed an adhesion to the broad ligament. Internally it communicates by a thin, thread-like, vascular band with a part of the great omentum adherent to the fundus of the uterus. Not a trace of the

hempen ligature, with which the pedicle was secured, can be seen.

From a girl aged 18. A large multilocular tumour of the left ovary was removed, and the pedicle secured by hempen ligature. She made a good recovery, but the right ovary became sarcomatous, and she died seven months after the operation; the second tumour could not be removed during lifetime. The specimen is figured, and the case described, in the paper quoted in the description of No. 4558.

Presented by Dr. G. Granville Bantock, 1877.

Changes in Abdominal Wounds.

4561. The integuments around an abdominal wound, from a middle-aged woman, who died six days after the removal of an ovarian tumour. The edges of the wound are brought together by silkworm-gut. At most points the apposed edges of integument are united; posteriorly the peritoneal surfaces appear everted, so as to lie against each other; they were found to be adherent, in the deeper part of the wound, by recent lymph, easily broken-down.

The apposition of the everted surfaces of peritoneum was effected in the process of application of the sutures.

Presented by Alban Doran, Esq., 1880.

4562. Part of the integuments of the abdomen around the cicatrix of an ovariotomy-incision. They have become distended into a pouch by the gradual yielding of the cicatricial tissue, which is more marked in the peritoneal layer than in the integument.

From a middle-aged woman. Fifteen years after the removal of an ovary for cystic disease, the opposite ovary was removed by the donor, and this portion of the abdominal wall was cut-away at the same time. The patient recovered.

Presented by J. Knowsley Thornton, Esq., 1882.

Specimens of Diseases of the Ovary in other parts of the Museum may be found by reference to the Series of General Pathology and to the next Series and that of Diseases of the Uterus.

Series LV. DISEASES OF THE FALLOPIAN TUBES AND BROAD LIGAMENT.

Hypertrophy of the Tube: 4563.
Inflammation: 4564, 4565.
Tubercle: 4566.
Obstruction and Dilatation: 4567 to 4576.
Cysts connected with the Fallopian Tube: 4577 to 4583 A.
Solid Growths: 4584.
Cysts of Broad Ligament, including Parovarian Cysts: 4585 to 4589 A.

4563. A Fallopian tube, with a portion of the wall of a large ovarian cyst. With the growth of the tumour the tube has become much hypertrophied and elongated. The process of hypertrophy has involved the fimbriated extremity: each fimbria is greatly increased in size, and shreds of lymph hang from some of them, as well as from adjacent structures. The tube is unobstructed.

From a single woman aged 35. She suffered from a large multilocular cyst which twice became acutely inflamed, delaying operation. When the tumour was removed it was found universally adherent to the intestines and abdominal wall, but the tube hung free from its surface, measuring six inches in length.

Presented by Dr. G. Granville Bantock, 1881.

4564. A Fallopian tube obstructed and dilated. Its cavity held two ounces of pus; its mucous membrane resembles the wall of a true abscess. It adhered to its ovary, which was not diseased. The opposite ovary and tube are preserved, No. 4476. *Presented by Lawson Tait, Esq.*, 1881.

4565. A Fallopian tube and ovary. The tube is obstructed and considerably dilated; its muscular coat is thickened, and its cavity, when fresh, contained thick muco-pus. The ovary is enlarged to about twice its normal size; its stroma was

pale and succulent, no follicles could be detected, and the cut surface has become very concave. The tube and ovary are intimately joined, and flakes of lymph hang from the peritoneum. Two appendices epiploicæ have become adherent to the narrower portion of the tube. The opposite tube and ovary were in a similar conditon.

Presented by Lawson Tait, Esq., 1881.

4565 A. An uterus and its appendages. The uterus is slightly enlarged and its walls are thickened, as may be seen at the back of the specimen, where the anterior wall has been removed. The right Fallopian tube is very slightly dilated, but its fimbriæ are adherent to the surface of the ovary. The hydatid of Morgagni is enlarged, and its walls are thickened. The left tube, much dilated at its extremity, is intimately adherent to the ovary, which is converted into a single cyst, which has been laid open to show that it does not communicate with the dilated end of the tube. Broad bands of adhesion, some of which have been removed, cover the cystic ovary, and bind the neighbouring structures together. The adhesions and dilatations of the tubes appear due to inflammation of the surface of the ovary.

The left tube had ruptured and thus caused the death of the patient.

Presented by Lawson Tait, Esq., 1881.

4566. An uterus and its appendages, showing strumous disease of both Fallopian tubes. The tubes are dilated, and the mucous membrane is rugose and thickened by a caseous deposit. In the recent state, it appeared that the lining membrane of each tube had undergone an extreme overgrowth resulting in thickening to the extent of about one sixth of an inch.

From a female aged 19, of good family history. She had been in good health till eight months before death, when the catamenia became irregular and the abdomen swollen and tender. The inspection showed a primary disease of the Fallopian tubes, extending thence to the mesenteric and lumbar glands, to the glands in the portal fissure, and to the mediastinum and lung.

Presented by Dr. Goodhart, 1875.

4567. A dilated Fallopian tube. The fimbriæ, though closely matted together, are still distinguishable, and are separated from the rest of the tube by a deep groove. In the substance of the broad ligament, below the tube, are several small cysts, all developed high above the level of the par-ovarium ; one is pedunculated and visible in the front of the specimen ; the others are seen posteriorly, but not clearly, as when fresh.

From a single lady aged 64. The left ovary was removed for cystic disease, and the right, which was very small and atrophied, was removed with this dilated tube.

Presented by J. Knowsley Thornton, Esq., 1882.

4568. A Fallopian tube with part of the adjacent broad ligament. Its abdominal extremity is obstructed, and its cavity dilated with accumulated fluid.

This specimen shows the characteristic shape of a Fallopian tube in an incipient stage of dilatation after obstruction. The whole tube assumes the form of a pastoral crook.

Presented by Lawson Tait, Esq., 1881.

4569. Section of an uterus, with one of the Fallopian tubes and broad ligaments. The fimbriated extremity of the Fallopian tube has been turned round, and become closely adherent to the side of the uterus ; and, in consequence of the closure of both of its orifices, fluid has collected in it, and distended it into an elongated pyriform sac. The mucous membrane of the tube appears to have given way in some places under the distension ; it projects in folds like half-valves wherever the tube bends suddenly. There is a fibrous tumour in the fundus of the uterus. *Hunterian.*

4570. A pair of Fallopian tubes, both obstructed at their distal extremities, and adherent to their ovaries. The serous coat of the tubes is smooth and healthy, but bands of lymph connect the tubes and ovaries, and a few shreds hang from the surface of the ovaries. The tubes were filled with clear fluid.

Removed by operation from a young single woman who suffered from intractable dysmenorrhœa and menorrhagia for several years.

Presented by Lawson Tait, Esq., 1881.

4571. A right Fallopian tube, much dilated. It weighed on removal 4 lb. 11 oz., including its contents, which resembled ovarian fluid.

4572. The left tube from the same subject as the preceding specimen. It weighed, inclusive of its fluid contents, 1 lb. 6 oz.

From a single woman aged 23. Nine months before the removal of the tubes she noticed a lump in her left iliac fossa; this enlarged and filled the lower part of the abdomen. The right ovary was left intact, but a small piece of ovarian tissue was removed with the left tube. The patient married nine months later; menstruation, regular down to the date of the operation, continued with equal regularity afterwards for at least two years and a half, when she was last heard of. (See Trans. Path. Soc. vol. xxxi. p. 192.)

Presented by Sir T. Spencer Wells, 1877.

4573. A Fallopian tube, dried. It is elongated and tortuous, and in its whole length was distended with a thin serous fluid, which accumulated in it after the closure of both its orifices. Its diameter gradually increases, from its uterine to its ovarian extremity, from two to five lines; and then it suddenly enlarges, so as to form an oval sac, which measures about five and four inches respectively in its chief diameters; constituting the "dropsy of the Fallopian tube."

Presented by Sir James Paget.

4574. An uterus, with its appendages. Both Fallopian tubes are much dilated, especially the right. This has formed a communication with the corresponding ovary, which is dilated into a cyst over two inches in diameter. The ovarian ligament can be traced on to the surface of the

cyst. There are numerous adhesions on the surface of the uterus, the result of chronic peritonitis.

From an intemperate woman, aged 38, who died from gangrene of one leg after a fall.

Presented by Dr. Goodhart, 1876.

4574 A. A large cyst, with an obstructed and slightly dilated Fallopian tube adherent to its upper surface, but not in communication with the cyst-cavity. A portion of the ovary is seen inferiorly, and it communicates with the cavity of the cyst, which appeared to have been originally developed on the broad ligament.

This appears to be an early form of the condition seen in No. 4574, and may serve to explain the origin of tubo-ovarian cysts.

From a young woman. The opposite ovary was connected with a large multilocular cystic tumour.

Presented by Dr. G. Granville Bantock, 1884.

4574 B. The uterus of a Kangaroo and its appendages, with the Fallopian tubes distended into large oval sacs by accumulation of mucus and caseous material. The abdominal viscera were matted together by old adhesions, peritonitis having probably been set up by leakage of pus from the Fallopian tubes into its cavity. (See Journ. Anat. and Phys. 1885, p. 124.)

Presented by J. Bland Sutton, Esq., 1885.

4575. An oviduct, from a Fowl or some other large bird, in which it appears as if, in consequence of the obstruction of its extremity, the materials of several eggs have been stopped in their progress, and have distended nearly the whole length of the tube. *Hunterian.*

4576. Oviduct of a Fowl, distended by a laminated concretion of egg-like material. *Purchased.*

4577. The outer extremity of a Fallopian tube, near the fimbriæ of which a small, oval, and thin-walled cyst, full of fluid, is attached by a slender pedicle. This cyst, generally known as the hydatid of Morgagni, is believed to represent the closed extremity of Müller's duct. *Hunterian.*

4578. A Fallopian tube and ovary. On the Fallopian tube there is a small, oval, pedunculated cyst, similar to that in the last specimen; and on the ovary, a small, flattened, round tumour. *Hunterian.*

4579. The fimbriated extremity of a Fallopian tube, showing an unusual development of the "hydatid of Morgagni." Its pedicle, which springs from the usual point of attachment of the "hydatid," is much over-developed, and bears an accessory fimbria.

From the pedicle of a large ovarian cyst.

Presented by Alban Doran, Esq., 1882.

4580. The fimbriated extremity of the Fallopian tube of a Sow, laid open to show a fine membranous cyst attached to its inner surface. *Hunterian.*

4581. The fimbriated extremity of the opposite Fallopian tube of the same animal, with a small pedunculated cyst attached to its outer surface. *Hunterian.*

4581 A. The cloaca and the adjacent parts of a Hen, with an unobliterated right oviduct; the upper part of it has been dilated to form a thin-walled oval cyst, measuring five eighths of an inch in its transverse diameter. To the upper part of this cyst another smaller cyst is attached by a thin narrow pedicle. The left oviduct is natural, and has been cut short.

4581 B. A similar specimen, in which the whole length of the right oviduct is distended and forms an elongated cyst

having another cyst attached to its summit by a pedicle. (See Journ. Anat. and Phys. 1885, p. 131.)

Presented with the preceding by J. Bland Sutton, Esq., 1885.

4582. A thin-walled pyriform cyst, developed under the broad ligament at the point where it is reflected over the Fallopian tube.

This specimen is figured and described in a contribution by Mr. A. Doran to the 'Transactions of the Pathological Society,' vol. xxxiv. pl. xi. fig. 2 (1883).

Presented by Lawson Tait, Esq., 1881.

4583. A similar cyst. Below the Fallopian tube lies another cyst, developed between the layers of the broad ligament.

Presented by Alban Doran, Esq., 1884.

4583 A. The outer third of a Fallopian tube. From its upper border, a quarter of an inch from the fimbriated extremity, projects a thin-walled pyriform cyst, about three quarters of an inch in diameter, and resembling those shown in the two preceding specimens. This cyst is not a process from the tube, nor even adherent to its walls, but lay in the broad ligament at the point where that fold of peritoneum was reflected over the upper border of the tube. The ligament has been dissected off one aspect of the cyst. The cyst lies far from the site of the parovarian tubes or of the hydatid of Morgagni.

Presented by Lawson Tait, Esq., 1881.

4584. A Fallopian tube and ovary. The tube is dilated by masses of papillomatous growths, which spring from its mucous membrane. These growths have not rendered the tube impervious, and a bristle is passed completely through it from the uterine end to the fimbriated extremity, which is patent, and during lifetime let out a mucoid discharge from the growths. The ovary is almost normal; an incision made into it posteriorly showed three distinct corpora lutea, one of which was recent.

From a single lady aged 48. Twenty months before this spe-

cimen was removed she was seized with symptoms of inflammation of the right ovary, followed by effusion into the right pleura and ascites, without any general symptoms. Both pleura and peritoneum were tapped more than once; at length a tumour could be detected in the right iliac fossa, which was removed, and its true nature discovered. No secondary deposits could be found in the abdominal cavity during the operation. The patient made a rapid recovery; ascites did not recur, but she had an attack of pleurisy four months later. This subsided, and she was in good health when last heard of, two years after the removal of the tumour. For a full account of the case, with drawings of the microscopical appearances of the papillomatous growths, see Trans. Path. Soc. vol. xxxi. 1880, p. 174.

Presented by Sir T. Spencer Wells, 1879.

4584 A. An ovary, with the Fallopian tube, from the extremity of which the fimbriæ project in unusually thick tufts; most of the tufts have a cartilaginous-like nodule, the size of a millet seed, attached to their extremities. These nodules may be considered homologues of the cartilaginous bodies found near the head of the epididymis.

In minute structure the nodules consist of connective tissue, containing many large round cells, and enclosing two, three, or more circumscribed homogeneous masses, partially calcified, but having neither the structure of bone nor that of true cartilage. The edges of some of the nodules are crenated, and show a faint appearance of lamination.

The opposite Fallopian tube showed the same condition. The parts shown were removed from a patient, aged 36, for persistent pain, which had existed seven years, and was aggravated during menstruation and after coition. The chief pain was on the right side. The right infundibulum was completely, and the left was partially, adherent to the pelvis. The patient recovered, and the pain was completely relieved. (See Trans. Obstet. Soc. vol. xxxv. 1883, p. 249.)

Presented by Lawson Tait, Esq., 1884.

4585. A Fallopian tube, broad ligament, and portion of an ovary. The parovarium is exposed, showing a small spherical cyst, intimately connected with its tubes.

Removed, after death, from a patient who had died shortly after the extirpation of a cystic tumour of the opposite ovary.

Presented by Alban Doran, Esq., 1881.

4586. A Fallopian tube and ovary. A thin-walled cyst, measuring about one inch in its chief diameter, lies between the layers of the broad ligament in the region of the parovarium, and separate from the ovary. The "hydatid of Morgagni," attached to the longest fimbria of the Fallopian tube, is well developed. *Hunterian.*

4586 A. A Fallopian tube and broad ligament. The posterior layer of the ligament has been removed, to display the parovarium. Its horizontal tube terminates in a small pyriform cyst, and passes internally into the duct of Gartner, represented by a distinct fibrous cord. A minute spherical cyst is connected with one of the vertical tubes of the parovarium.

This specimen formed an appendage to a large ovarian cyst.

Presented by Alban Doran, Esq., 1882.

4586 B. A left ovary, with the tube and intermediate structures. A part of the posterior layer of the broad ligament has been removed, so as to expose a thin-walled cyst developed between its layers. The cyst is quite independent of the Fallopian tube and parovarium. The outermost vertical tube of the parovarium crosses over the cyst and is lost in the tissue of the broad ligament near the long or ovarian fimbria of the Fallopian tube.

From a young woman. A large thin-walled cyst existed on the right side, and was removed. The left ovary being enlarged, and containing a cyst close to its inner aspect (this cyst has been cut away in this specimen), it was removed, with the Fallopian tube and broad ligament. This specimen is figured and described in the donor's 'Observations on Tumours of the Ovary, Fallopian Tube, and Broad Ligament,' fig. 10, and p. 49.

Presented by Alban Doran, Esq., 1884.

4586 C. A thin-walled cyst lying between the layers of broad ligament, and possibly originating in the parovarium.

Presented by Sir T. Spencer Wells, 1885.

4587. An ovary, with the broad ligament and Fallopian tube. There is a thinly-walled cyst, two inches in diameter, between the layers of the broad ligament, in the region of the parovarium. The terminal part of the Fallopian tube is stretched over its surface. The anterior layer of broad ligament is partly dissected-off from the cyst. The cyst was filled with a serous fluid. The ovary and Fallopian tube are healthy.

From the Museum of George Langstaff, Esq.

4587 A. A right Fallopian tube and broad ligament. A thin-walled cyst, nearly one inch in diameter, is developed between the layers of the ligament, close under the long or ovarian fimbria of the Fallopian tube, the secondary fringes of which fimbria are stretched over the cyst and parted widely from each other. The horizontal tube of the parovarium terminates in a pedunculated cyst with opaque contents. Half an inch above this cyst is a pedunculated fringe on the site of the "hydatid of Morgagni."

(See the donor's 'Observations on Tumours of the Ovary' &c., fig. 12, and p. 52.)

Presented by Alban Doran, Esq., 1883.

4588. A dissection showing the relations of a cyst developed between the layers of the broad ligament in the region of the parovarium. The Fallopian tube is seen above, much elongated, its outer part lying on the surface of the wall of a similar but very much larger cyst, the greater part of which has been cut away. A blue glass rod is passed into the orifice of the fimbriated extremity. The ovary, laid open, is seen below and internal to the other structures. The posterior layer of the broad ligament has been horizontally divided, so as to expose the cyst, which appears to be unilocular and very thin-walled, without any intracystic growths.

The evidence that all such thin-walled cysts of the broad ligament are developed from the parovarium is uncertain. In Nos.

4582, 4583, 4583 A, and 4586 B, the cysts cannot be of parovarian origin. In No. 4586 A one cyst is seen arising from a parovarian tube.

From a woman aged 36. The larger cyst, thin-walled and filled with a thin watery fluid, was removed, with the structures here displayed, without any difficulty, and the patient rapidly recovered.

Presented by J. Knowsley Thornton, Esq., 1881.

4589. A large cyst, eight inches in diameter before its fluid contents were emptied. Its interior is a single cavity; the inner wall is rough, from a thin deposit of fibrin, and a small, solid, warty growth springs from the wall at one point. The cyst is distinct from, though in close relation to, the ovary; the Fallopian tube lies in its wall superiorly.

From a woman aged 24. The pedicle (specimen No. 4550 A) was found to be twisted, and the cyst was full of grumous chocolate-coloured fluid. The patient died of tetanus on the eighth day. (See Trans. Path. Soc. vol. xxxi. p. 7, concerning the appearances of the spinal cord.)

Presented by Dr. G. Granville Bantock, 1879.

Series LVI. DISEASES OF THE UTERUS.

Displacements and Flexions: 4590 to 4597.
Displacements in Animals: 4597 A to 4597 D.
Inflammation: 4598 to 4602.
Closure, its Orifice or its Canal: 4603, 4604.
Cysts and Morbid Growths: 4605 to 4672.
Cysts: 4605 to 4607.
General Enlargement: 4607 A.
Fibro-muscular:
Submucous or polypoid: 4608 to 4622.
Interstitial: 4623 to 4635.
Subperitoneal: 4636 to 4643.
Cystic: 4643 A.
Of Round-ligament: 4644.
Calcification of Fibro-muscular Tumours: 4645 to 4647.
Mucous Polypi:
Of Cervix: 4648 to 4655, 4656 to 4659.
Cancer: 4660 to 4672.

Displacements and Flexions.

4590. A half-section of the pelvic viscera of a sterile woman aged 33. The uterus is small, with its body considerably anteflexed on the cervix, which is very short, the vaginal portion hardly existing, so that the *cul-de-sac* of the vagina lies below the os externum. The uterine walls are very thick, especially at the point of flexion; the muscular and mucous coats of the bladder are hypertrophied; and there is a small digital protrusion to the left side, half an inch above the orifice of the ureter; the walls are thinned at this point. The abnormal shape of the uterus is most probably congenital.

This specimen is figured in Dr. Roper's paper "On Cases of Anteflexion of the Uterus," Trans. Obstet. Soc. vol. xx. p. 316.

Presented by Charles Stewart, Esq., 1878.

4590 A. A vertical section of the bladder, uterus, and part of the vagina of an adult woman. The uterus is well-developed, but its body is sharply bent upon the cervix. At the line of flexion the uterine walls are neither thicker nor thinner than in a healthy specimen. Some small cystic cavities, probably dilated glands, have been cut through under the mucous membrane behind the os internum. There are no adhesions between the serous surfaces of the uterus and bladder. A small polypoid growth has been divided close to the fundus.

Presented by Dr. G. Granville Bantock, 1884.

4591. The right half of a uterus and its appendages, showing the alteration of form known as retroflexion. The walls of the uterus are slightly thickened at the part where the body is bent, at a very obtuse angle, on the cervix. Bands of lymph are formed between the uterus, ovary, and Fallopian tube.

From a woman aged 30.

Presented by Dr. Arthur Farre, 1877.

4592. A half-section of the pelvic viscera of a woman. The rectum has become somewhat displaced in preparation, so that its normal curve is effaced. The uterus is enlarged and its body retroflexed or bent back on the cervix. There are no signs of pelvic inflammation with formation of adhesions, as in the last specimen ; but the body of the uterus appears to have fallen back through morbid increase of bulk. *Presented by Charles Stewart, Esq.,* 1880.

4593. A bladder, uterus, and rectum, with part of the integuments of the perinæum, placed in the positions which they occupied during the life of the patient. There has been prolapse, with complete inversion of the whole length, of the vagina ; and it protruded in a large swelling, upwards of four inches in length, beyond the labia. A portion of bent wire is introduced at the end of the inverted vagina into the os uteri : the uterus itself, somewhat curved and

distorted, but not otherwise diseased, is exposed by the removal of the left wall of the vagina. The ovaries and broad ligaments are stretched and brought down to the level of the external labia, but are healthy in their structure. The greater part of the bladder has been carried outwards beyond the labia, together with the inverted anterior wall of the vagina. A curved eyed probe, which is introduced into the orifice of the urethra, passes almost straight forwards in its course to the interior of the bladder. A part, however, of the apex of the bladder remained within the labia; but it has been cut away. A large mass of the rectum is protruded more than two inches beyond the anus.

The patient had been thus diseased for many years.

From the Museum of John Howship, Esq.

4594. A median section of the pelvic organs of a female, in which, with a complete prolapse of the vagina, the uterus is moved from its normal position, so that the os opens upon the surface of a mass formed by the walls of the everted vagina projecting between the labia. The uterus is small, and appears otherwise healthy. The base of the bladder is slightly dragged downwards with the uterus. Bristles are placed in the orifice of the ureter, the urethra, and the os uteri. *Presented by John Hilton, Esq.*

4595. A median vertical section of the pelvic organs of an adult female. The vagina is prolapsed, being completely everted; its mucous membrane, almost converted into skin, is seen posteriorly. The cervix uteri is much hypertrophied and elongated; in descending with the vagina the uterus has drawn down its peritoneal investments. The walls of the bladder are thickened.

Received in exchange from the Museum of St. Thomas's Hospital, through Charles Stewart, Esq., 1877.

4596. A vertical section of the female pelvic viscera, showing hypertrophic elongation of the cervix uteri. The peritoneal surface of the body of the uterus is covered with fibrous membranes, the result of peritonitis, and in its anterior wall are three small myomatous tumours. A polypus arising from the front of the os internum filled the canal of the cervix, the posterior wall of which is more elongated than the anterior. By this elongation the vagina is much everted, and the posterior pouch of the peritoneum dragged down to the level of the anus. The anterior pouch retains its relations to the bladder and uterus. There is no trace of any fimbriated extremity to the Fallopian tube, its cavity is dilated, and its exterior covered with false membrane.

From a woman aged 43.

Received in exchange from the Museum of St. Thomas's Hospital, through Charles Stewart, Esq., 1877.

4597. An unimpregnated inverted uterus, with the vagina, ovaries, and other parts. Bristles are placed in the uterine orifices of the Fallopian tubes, which, by the inversion of the uterus, have come to open obliquely in the upper part of the vagina. Below is a polypus, which was attached to the fundus of the uterus, on the rough spot now seen by the side of the right Fallopian tube. A ligature was applied near its attachment, and it sloughed-off just before the patient died.

Mr. Hunter left the following record of the history of this specimen, and some observations on Inversion of the Uterus, to which it afforded the principal illustration :—

"*Introsusception.*

"*An Account of an Introsusception found in a Lady who appeared to die of a Polypus in the Uterus.*

"For a considerable time prior to her death she had a pain in her side, which was at first supposed to be bilious, and for which she was purged, and often relieved; but when the polypus was discovered it was then suspected to have some connection with the polypus, although not easily explained, but no hardness could be felt anywhere in the belly.

"When her bowels were not open, or loose, this pain was very considerable: but when she had a motion, or when she was loose

in her bowels, she was immediately easy, which made me suspect there was some obstruction in the colon; but when she died the cause was then discovered.

"*The appearance upon opening the Body.*—The contents of the abdomen were in a perfect sound state, although not all in a natural one. There was an introsusception of the jejunum into itself (downwards) very near to its beginning. The length of inversion downwards was about five inches, and as it had been squeezed down to oblige it to invert it up again, it was puckered together, so as to take up probably much more than a foot of gut. The inner returning gut, or that part inverted back again, had none of this puckering; and, indeed, it would rather unfold the middle portion the moment the other could be inverted in; for it must be always upon the stretch, by the mesentery as it were pulling it out, and which it may sometimes do: from which I could conceive an introsusception move downwards, inverting the lower or outer, and clearing or disengaging that which was already in this state.

"The inversion of the uterus from a polypus explains perfectly the increase of an introsusception when once [it has] taken place: they are continued exactly upon the same principle. The cause of the inversion of the uterus from a polypus is the same operation in the uterus that continues it, and it is the same operation in the intestine that continues the increase of the introsusception; but the first cause of the introsusception is not the same that continues it, as is the case with the inversion of the uterus from a polypus; it is owing to what may be called accidental, and then the action of the intestine comes in to continue and increase it: each explaining the other."—*Hunterian MS. Cases and Dissections*, No. 47.

"*Of the Inversion of the Human Uterus.*

"This viscus is liable to be inverted from two causes; one is immediately after labour, when it is so large as to admit of its containing itself, and which is commonly from an imprudent mode in disengaging and bringing away the placenta, when that substance has been attached to the fundus of the uterus, or near it. This may be said to arise from violence or hurt, but which admits of a return or cure, when immediately attended to; however, if not immediately attended to, the opportunity is lost, arising from the natural alteration taking place in the uterus itself, by its restoring itself to its natural size, which, as it were, takes on this necessary form as if modelled to it, and which now becomes unalterable.

"The second in its mode is somewhat similar to the above, or first: viz., the expulsion of an adventitious body, although of another kind, and at a very different period in the state of this viscus. It begins to take place when this viscus is small, but becoming gradually large enough (by the very disease that produces it) to admit of an inversion; so that in the first cause the

uterus is first large, so as to admit of an inversion, and by its contraction to its natural state, it as it were fixes it; but in the present it begins where the uterus is at the smallest, and it gradually enlarges so as to admit of its inversion. The first is done immediately, because its cause is immediate, for this enlarged state of the parts is of short duration; but the second is gradual, because it is to produce it itself, by the very action of the uterus in expelling an unnatural or adventitious body, commonly called a polypus.

"To explain this, let us suppose a polypus to grow from the fundus of the uterus or near it, as the placenta adhered in the first cause of inversion; and as it grows in size it will gradually fill this cavity, and will of course become uneasy to the uterus, which will be constantly endeavouring to remove it.

"The action of the uterus to effect this will be downwards, and as the body of the uterus acts on this substance, it will be gradually squeezed down towards the os tincæ, and the fundus will of course be gradually drawn into its own cavity, and as the polypus is squeezed down so will the fundus follow.

"When the whole of the polypus has got into the vagina, if it has no length of neck, then will the fundus uteri be as low down as the os tincæ, the upper half of the uterus just filling the lower half; but I conceive it does not stop here: I conceive the contained or inverted part becomes an adventitious or extraneous body to the continuing [containing?], and it continues its action to get rid of the inverted part, similar to an introsusception of an intestine. How far the vagina may assist this action of the uterus, by its endeavouring to free itself of the polypus now come down into it, I will not say. That either the uterus or vagina, or both, continue the action after the tumour has escaped [from] the uterus and got into the vagina, was evident in Miss Dr——m's case."

"*The Case of Miss Dr——m.*

"A polypus had formed at the opening of the left Fallopian tube, which of course had elongated into the cavity of the uterus, and as that viscus had contracted on this substance, according to the principles above stated, its fundus, to which the polypus was attached, was gradually drawn in, first at this part, and afterwards the whole. It was an oblique inversion; for one Fallopian tube was longer out of the fundus than the other. This operation had continued on till the polypus had been squeezed into the vagina, and there probably became more quiet, although we have reason to suppose it still made progress; for as the polypus had a very short neck by the time it had got into the vagina, the inverted fundus must have been as low as the os tincæ, but upon examination it was rather lower, and the tumour was some way disengaged, or distant, from the os tincæ, and as the tumour in the vagina was larger than a turkey's egg, we must suppose it had grown much larger than when in the uterus itself.

"She dated an uneasiness in these parts for near three years.

Dr. Denman was sent for, who examined the vagina, and found the polypus filling up almost the whole vagina. The fingers could be easily passed on by the side of it to its neck, or attachment to the uterus, and the os tincæ could be felt all round, enclosing its own fundus; but which was then supposed to be a continuation of the polypus into the cavity of the uterus, not supposing it to be the fundus uteri itself.

"A ligature was proposed to be passed round its neck, so as to take off that part which was within the vagina, and see if that which was supposed to be a continuation of the polypus within the uterus would not mortify from inflammation, &c., as is sometimes the case. The ligature was attempted to be passed over it, but from the size of the tumour and the tightness of the mouth of the vagina, she being a virgin, it at first could not be done.

"When she had recovered of the fatigue from the first attempt, it was attempted a second time, and succeeded; but now the tumour was less, probably from the first attempt, and also from the mouth of the vagina having in some degree become relaxed, by which means the operation became easier.

"The ligature was drawn as tight as she could bear, with tolerable ease, and when she could bear it, it was occasionally tightened, but her health became so ill that this part of the operation she could hardly bear; and, after having undergone this fatigue for days, she at last died, just as it was cut through.

"Prior to her death she had a pain in her left side, which was suspected to have some connection with her complaint, although not easily explained, but no hardness could be felt there. When her bowels were not open or loose, this pain was very considerable, but when she had a motion, or when she was loose in her bowels, she was immediately easy, which made me suspect there was some obstruction in the colon; but when she died, the cause was then discovered, which proved to be an introsusception of the jejunum downwards."—*Hunterian MS. Cases and Dissections*, No. 70.

The specimen is in No. 2697.

4597 A. The pelvis of a Monkey (*Cercocebus collaris*) with the left ilium removed to show the uterus, which is bent to the right side and slightly forwards, resting on the psoas muscle. The uterus is considerably elevated as the result of contraction of the transverse diameter of the pelvis from rickets. The ovaries are large and hard, and the clitoris is hypertrophied.

4597 B. A similar specimen from a Macaque Monkey, with the uterus anteflexed. The lower part of the rectum was dis-

tended, and the uterus was in consequence pushed upwards and deprived of the support of the pelvic organs.

4597 C. The uterus of a Hyomoschus bent forwards upon itself to such a degree that the upper and lower parts of its anterior surface are in contact.

Three months before death it had given birth to a young one.

4597 D. Half of the uterus of a Molucca Deer, divided by a vertical antero-posterior section, showing a condition similar to that in the preceding specimen. The point of flexion is in the fundus, considerably above the os internum.

4597 E. A side-view of the pelvis of a Monkey, showing the uterus pushed upwards and anteflexed. The cervix uteri is affected with a circumscribed enlargement, having the appearance of a ring or ferrule attached to the fundus uteri. The vagina is elongated and dilated.

This condition is believed to have been due to frequent copulation with a male of disproportionate size. (See Journ. Anat. and Physiology, vol. xix. p. 121, 1885.)

4597 F. The uterus of a Baboon sharply bent backwards or retroflexed at its junction with the cervix.

The six preceding specimens were from the Zoological Society's Gardens, by J. B. Sutton, Esq., 1885.

Inflammation.

4598. "The uterus of a young lady, 16 years of age, in whom the cavity of the abdomen was filled with coagulable lymph uniting the different parts together. In this preparation the uterus is shown imbedded in that mass" of lymph.—(*Hunterian MS. Catalogue.*) The lymph has exactly the same character as that in No. 2345, and it is most probable

that both this and Nos. 2345 and 2346 were taken from the same patient, though they were placed apart in the original arrangement of the collection. If such be the case, the lymph in this specimen was produced during an attack of peritonitis in a tuberculous subject (see No. 2346). It may illustrate the manner in which the uterus frequently becomes fixed in cases of peritonitis. *Hunterian.*

4599. A portion of ileum, with part of the sigmoid flexure of the colon and the uterus. They are all unnaturally adherent, and an ulcerated passage, indicated by a piece of wood, extends from the ileum through the fundus of the uterus into its cavity.

The patient was a woman 61 years old. Ten years before her death she had obstinate diarrhœa, which continued for about twelve months, and was succeeded by a fæculent discharge from the vagina. This discharge continued for nine months, the fæculent matter becoming gradually more abundant and more solid; during all this period there was no discharge of fæces by the rectum. But after nine months the fæces resumed their natural passage, and there remained only a mucous discharge from the vagina. After death this disease alone was found; but there is no record how the aperture between the ileum and uterus was closed for the last eight years of the patient's life.

From the Museum of John Taunton, Esq.

4600. The greater part of the interior of an uterus, including about half the thickness of its muscular portion, which was destroyed by the free application of chloride of zinc to the uterine cavity and discharged during life.

The patient survived for several months.

Presented by Sir T. Spencer Wells, 1880.

4601. A collection of thin membranous structures, expelled, within the course of a few months, from the uterus of a young woman at each time of menstruation. This was always attended with severe pain.

Presented by Dr. G. Granville Bantock, 1881.

4602. Two pieces of a soft flocculent tissue, expelled from the uterus of a woman at two successive menstrual periods. One side of each piece is covered with shaggy membrane, the opposite side presents numerous minute depressions. When fresh these specimens were of a pale red colour.

From a married woman aged 43. For eighteen months she had suffered from severe pains during the menstrual period, which recurred with perfect regularity. At each period fragments, similar to those here preserved, were expelled. The patient had not been pregnant for several years.

Presented by Dr. Champneys, 1881.

Closure of the Uterine Orifice, or of its Canal.

4603. An uterus and vagina, having their cavities laid open from the front. The os uteri is closed; the cavity and walls of the uterus are healthy, and but little enlarged.

Hunterian.

4604. The uterus of a Sheep, the horns of which are dilated in consequence of the closure of the upper part of the vagina and of the os uteri. *Hunterian.*

Cysts, Enlargements, and Morbid Growths.

4605. A cystic tumour, from an uterus. The wall is thick, tough, and wrinkled externally in such a manner as to indicate that it had prolapsed and been subjected to considerable friction. It contained a perfectly clear serous fluid. The structure of its wall is fibro-muscular.

It was removed with the écraseur. (See Trans. Path. Soc. vol. xxiv. p. 156.)

Presented by Lawson Tait, Esq., 1872.

4606. The lower and posterior part of an uterus, recently parturient, to the outer surface of which a thinly-walled cyst, about an inch and a half in diameter, is attached.

The cyst may have originated in a persistent portion of Gartner's duct (para-uterine cyst).

Hunterian.

4607. The uterus of a Macacus, surrounded with thin-walled cysts containing hydatids. *Hunterian.*

4607 A. A section of an uterus, a portion of the urinary bladder, and an ovarian cyst. Its cavity appears on section about two inches in length, and its walls are extremely and generally hypertrophied. The cyst is placed above, and is intimately adherent to the fundus. A portion of the bladder and vagina may be seen below.

For an account of the case, with a drawing, see Trans. Obstet. Soc. vol. xxv. 1883. The local symptoms were trifling, and the patient, a sterile married woman aged 40, died of acute pulmonary disease.

Presented by Dr. Silcock, 1883.

4607 B. An uterus, all the walls of which are greatly thickened by a fibroid enlargement. The growth chiefly affects the anterior and left wall, which is, in parts, more than an inch in thickness. The cavity of the uterus is enlarged, and opening on its anterior surface is a large irregular space, apparently formed by degeneration of the fibroid tissue.

Removed by operation from a woman aged 35. Symptoms of fibroid of the uterus dated from eight years before the operation, when it was found that she had a fibroid polypus.

In vaginal examination, the finger passed from the uterine cavity into the cavity within the fibroid tissue.

Presented by Dr. Herman and Frederick Treves, Esq., 1884.

4607 C. The uterus of a Baboon, with a rounded enlargement of the fundus, due to general fibroid hypertrophy of that part.

Presented by J. Bland Sutton, Esq., 1885.

4608. An uterus, with a firm fibrous tumour attached to a considerable portion of the length of its posterior wall. The tumour has grown into the uterine cavity, to the elongated and flattened form of which it has adapted itself.

For this and many of the following specimens of solid uterine tumours the customary term "fibrous" is employed for growths

of which it is probable that many have the fibro-muscular structure for which the name "myoma" or "fibro-myoma" or fibroid is often used.

Hunterian.

4609. A section of the upper part of an uterus, to the inner wall of which an oval fibrous tumour, measuring an inch and a half in its chief diameter, is attached by a short and narrow pedicle. The cavity of the uterus is adapted to the tumour; its walls appear healthy. *Presented by Sir Everard Home.*

4610. An uterus, with the Fallopian tubes, ovaries, and other parts. The cavity of the uterus is dilated by a fibrous tumour, just like that last described, but twice as large, which has grown into it, and is attached by a narrow base to the posterior wall, near the fundus. There is also an oval tumour of the same kind, attached to the outer part of the fundus of the uterus.

Presented by Sir William Blizard.

4611. An uterus, the cavity of which is dilated to a diameter of six inches by the growth of a large spherical fibrous tumour within it. The tumour appears to be attached over a wide extent of the wall of the uterus, but it does not protrude from the cavity; its substance is softened and broken down. The walls of the uterus have grown in correspondence with the enlargement of its cavity, so that it resembles an uterus at the end of the fourth month of pregnancy. There is a growth like the fibrous tumour, but softer and more flocculent, on the outside of the uterus: it is connected with the right broad ligament and ovary, and perhaps communicates with the tumour within the cavity of the uterus.

Hunterian.

4612. A small myo-fibromatous polypus which was attached to the interior of an uterus by a long and slender pedicle.

Microscopically it was made up of fibrous tissue with a large quantity of unstriped muscle, and many oval and round nuclei. (See MS. Notes, vol. i. p. 366.)

Presented by Sir William Fergusson, 1872.

4613. Part of an uterus, to the interior of which, near the upper left angle of the cavity, a small portion of a polypus is attached. *Hunterian.*

4614. An uterus, with a fibrous polypus, of an oval form, and measuring five inches in transverse diameter, attached to the anterior lip of the cervix by a strong fasciculated pedicle, an inch and a quarter in length and half an inch in diameter. The exposed surface of the tumour is rough and flocculent. The rest of the uterus is healthy.

4615. An uterus, from the posterior and lower wall of which a large fibrous polypus has grown, and is suspended in the vagina by a broad thick pedicle. The surface of the polypus exposed in the vagina is flocculent and extensively ulcerated. On the adjacent wall of the vagina itself, also, there are several small ulcers. A separate small fibrous tumour in the wall of the fundus of the uterus projects into its cavity. *Presented by Sir William Lawrence.*

4616. The section of an uterus, from the internal surface of the posterior wall of which a large, pear-shaped, broadly pedunculated, fibrous tumour has grown, distending the cavity and projecting into the vagina. *Presented by Dr. Chambers.*

4617. A vertical antero-posterior section of an uterus, with a large fibrous polypus growing from the posterior wall of the cervical portion of its cavity, to which its base of attachment is an inch in diameter. The fibrous structure is obscure. The exposed surface is ulcerated. The boundary between the uterus and the fibrous growth is hardly discernible. The part of the uterus to which the growth is attached is enlarged and unnaturally vascular; the tumour itself appears to have received but few and small vessels. The vagina, distended around the morbid growth, is superficially ulcerated. *From the Museum of Sir A. P. Cooper.*

4618. A fibrous polypus, disk-shaped and irregularly knobbed on its surface, which was cut from the anterior part of the

cervix uteri. It measures nearly five inches in diameter and two and a half in thickness; it weighed three pounds. It was attached by a pedicle nearly an inch in diameter, the cut surface of which is shown at the centre of the mass.

The patient was 40 years old, and the tumour appeared to have been fourteen years in progress; but though it had caused great pain, and its surface had begun to ulcerate, her general health was not affected by it. Its excision was attended with no inconvenience, and was followed by complete recovery.

From the Museum of John Taunton, Esq.

4619. A tumour, which separated by sloughing from an uterus. It has been dried, but still measures eight inches in length and five in breadth. It appears to have possessed a compact fibrous structure. *Presented by Joseph Swan, Esq.*

4620. The uterus from which the preceding tumour separated, the vagina, and other parts. The tumour appears to have been attached on the left side, at and around the cervix uteri. There are traces of acute peritonitis, and all the parts appear to have been very vascular.

The patient died soon after the sloughing of the tumour.

Presented by Joseph Swan, Esq.

4621. A large, spheroidal, fibrous polypus, which was removed by ligature from the neighbourhood of the os uteri of an unmarried woman. Bristles are placed in the part which was tied.

The patient recovered.

Presented by Sir Everard Home.

4622. A spherical fibrous tumour, nearly four inches in diameter, which was removed by excision from the internal wall of the uterus. The cut surface of the pedicle, by which it was attached, is an inch and a half in diameter, and exhibits the open orifices of several large blood-vessels. The opposite

part of the tumour, which was exposed in the vagina, is superficially ulcerated.

The patient was 40 years old, and for many years suffered from a profuse vaginal discharge. She had violent pain in the vagina and dysuria, and the external organs of generation were inflamed and swollen. Pains, like those of labour, came on, and this tumour was protruded externally. Its pedicle was cut through, and the patient recovered; but there was considerable hæmorrhage for several days after the operation.

From the Museum of George Langstaff, Esq.

4623. Section of an uterus, and of a spherical fibrous tumour, an inch in diameter, in its upper and posterior wall. The tumour presents a somewhat laminated concentric arrangement of its chief fibres. It has grown almost immediately beneath the mucous membrane, which, together with a thin layer of uterine tissue, is reflected over all that part of it which projects into the cavity of the uterus.

The other half of this uterus and tumour is preserved in No. 380, described in Vol. i. p. 138.

Hunterian.

4624. An uterus, cut open through the posterior wall, in which is a spherical fibrous tumour, an inch in diameter. The tumour has grown in the middle of the wall, and projects slightly both into the cavity of the uterus and externally. It has but a loose connection, by fibro-cellular tissue, with the surrounding uterine substance. *Hunterian.*

4625. An uterus, in which a fibrous tumour, more than an inch in diameter, has grown in the substance of the fundus, and projects towards the peritoneal cavity. Another much smaller tumour, formed close by it, projects into the cavity of the uterus, and is flattened by the pressure of its walls. There is a third very small one in the middle of the left wall; and a fourth, of equally small size and disk-shaped, lies just beneath the peritoneum, near the right Fallopian tube. This Fallopian tube and the ovary are adherent to the side of the uterus. The cavity of the uterus is enlarged where the tumour projects into it. *Hunterian.*

4626. An uterus, in the walls of which there are three fibrous tumours. Two of these are situated in the middle of the left wall, and by their mutual pressure have lost the spherical form which they usually assume. The third is situated at the fundus of the uterus, and has grown into its cavity, to the form of which it has in part adapted itself, becoming broad and flat. The cavity of the uterus is enlarged at this part, and its mucous membrane is flocculent, as if superficially ulcerated. A small soft mucous polypus is attached by a long pedicle to the wall of the uterus, near the cervix.

Hunterian.

4627. An uterus, with numerous spherical fibrous tumours occupying nearly every part of its walls. The cervix is the only part free from them.

From a woman aged 57, married, but childless.

Presented by Francis Clarke, Esq.

4628. An uterus, with the ovaries, part of the vagina, &c. Two nearly spherical, but rough-surfaced, fibrous tumours were formed in the posterior part of the fundus of the uterus, just under the peritoneum, and projected towards the abdominal cavity. Both have had earthy matter deposited in them. One of them, about an inch and a half in diameter, is partially exposed by dissecting away the peritoneum and part of the uterus covering it; the other is removed, and the cavity in the wall of the uterus in which it lay, and with the interior of which it was loosely connected, is exposed.

Hunterian.

4629. The tumour removed, or shelled-out, from the uterus last described. It is oval, and nearly two inches in its greatest diameter. Earthy matter is irregularly deposited in isolated streaks and spots throughout its interior and upon its surface. *Hunterian.*

4630. Section of an uterus and of an enormous fibrous tumour growing from the posterior part of its cervix. The tumour

is of an elongated oval form, twelve inches in length and five inches in thickness, and presents the ordinary structure of a single fibrous tumour, with variously undulating, circling, and entangled fibres. At its lower end, also, there are several small smooth-walled cavities. At the upper part the line of boundary between the tumour and that part of the cervix uteri which was expanded over it as it grew, can be distinctly traced. At this part the substance of the uterus is much increased in thickness and vascularity, and can be traced in a thin layer over a great portion of the posterior surface of the tumour. The anterior wall of the uterus, the upper half of its posterior wall, and its cavity are of natural size : the mucous membrane of the latter is superficially ulcerated. The anterior surface of the tumour is rough, as if from superficial ulceration, and its lower end, which must have protruded far from the vagina, is in a similar state. The bladder and rectum are connected, as usual, with the uterus ; but there is a large quantity of false membrane in the pouch between the uterus and the rectum.

Hunterian.

4631. An uterus, in the posterior wall of which a fibrous tumour, nine inches long and seven inches broad, has been developed. By the growth of the tumour (which reaches from the fundus of the uterus nearly to the outer end of the lower wall of the vagina) the uterus itself has been drawn out to a length of between seven and eight inches. Its walls are thin, and exhibit large vessels in them like those of a pregnant uterus ; and its cavity, which is lengthened in the same proportion as its walls, is not more than half an inch in diameter. The tumour, though single, has an aspect as if it were made up of several smaller fibrous tumours ; for it consists of many portions of various sizes and shapes compressed together, but not very tightly, and connected by thin and rather loose layers of fibro-cellular tissue, which, on the cut surface, look like partitions subdividing the great mass. Its outer surface is in some parts knobbed ; and in some parts its texture appears to be loosened and softened. The peritoneal surface of the uterus is covered with false membrane. *Hunterian.*

4632. A large fibroid tumour enucleated from an uterus. Its exterior is very irregular, and its cut surface shows small cavities from softening of tissue.

From a single woman aged 35. For several years she had suffered with this tumour and with profuse menorrhagia, which threatened her life. At the operation an incision was made into the uterine wall, and the tumour detached by the hand; the uterus at once contracted, and the free bleeding that at first occurred soon stopped. The patient never rallied, but died of shock four hours later. (See 'Diseases of the Ovaries,' 1st edit. vol. i. p. 363.)

4633. The uterus from which the preceding tumour was enucleated. It is much enlarged, and posteriorly the Fallopian tube may be seen elongated and dilated. The right ovary is adherent to the back of the capsule of the tumour, and is cystic. In front the large cavity formerly containing the growth is exposed, as well as the true uterine cavity behind it.

Presented with the preceding by Sir T. Spencer Wells, 1862.

4634. A portion of a fibrous tumour in the uterine cavity, removed during life with the entire body of the uterus. The section shows an external wall of uterine tissue, thick and fleshy, enclosing the irregularly nodulated fibrous tumour, from which it is separated by a layer of cellular tissue, very thick at some points. Posteriorly the peritoneal covering of the uterus and one round ligament are left.

From a single lady aged 26. Both ovaries were also removed for cystic disease. The patient completely recovered, and was in good health nine years after the operation. (See Trans. Obstet. Soc. vol. xiv. p. 79.)

The remainder of the specimen is in the Museum of Guy's Hospital.

Presented by Thomas Bryant, Esq., 1871.

4635. The greater part of an uterus, filled with a mass of fibro-myomatous tumours. The tumours are mostly spherical, and protrude far from the surface of the uterus; they vary in diameter from one quarter of an inch to six inches, and are uniformly fibrous on section, without cysts. The Fallopian

tubes and ovaries are almost normal. A blue glass rod is passed into the cavity of the uterus.

From a woman aged 38.

Presented by Thomas Nunneley, Esq., 1870.

4636. An uterus, with the Fallopian tubes, ovaries, &c. A fibrous tumour, of the shape and size of an ovary, is attached by a broad band of peritoneum to the angle of the fundus of the uterus, near the right Fallopian tubes. There are no tumours of the same kind in the walls of the uterus.

4637. An uterus, in the walls of which there are eight or nine large fibrous tumours. The smallest is an inch in diameter, the largest four inches; most of them have an irregularly oval form. They all project upon the peritoneal surface; the largest of them retains only a narrow base of attachment to the fundus of the uterus, and another is attached to the side of the uterus by a flat band, like those in the preceding and in the next specimen. The uterus is enlarged, and deformed by their growth; its fundus is bent towards the left side, where one of the tumours imbedded in the posterior wall is cut open, and exhibits the ordinary structure. The ovaries and the other adjacent parts are healthy.

From the Museum of John Heaviside, Esq.

4638. An uterus, with two large fibrous tumours, which were situated between it and the rectum. They had probably grown just beneath the peritoneum of the posterior wall of the uterus, and had been separated from it by the gradual wasting of such pedicles as are shown in the preceding specimens. They are situated one above the other. The lowest of them is spheroidal, and measures about four inches in diameter; the upper one is of the same form, but somewhat smaller: they are fixed to each other by only a small part of their adjacent surfaces; their texture is very heavy and compact, with tough fibres traversing a nearly homo-

geneous tissue. One of the ureters is compressed by the lowest tumour, but is not otherwise altered.

The patient was 91 years old, and suffered from the growth of the tumours for thirty-seven years.

Presented by Sir T. G. Cullum.

4639. An uterus, enlarged by pregnancy, attached to the right side of which is a perfectly solid fibro-myomatous tumour, ten inches in its vertical diameter. The bond of connective tissue between the tumour and the uterus is a thin band an inch and a half wide ; it is very elastic, and before removal measured over four inches in length. The cavity of the uterus is lined with decidua.

From a woman, aged 36, who, for a twelvemonth before her death, noticed a hard lump in the right hypochondriac and lumbar regions. Owing to the length and flexibility of the pedicle, the tumour appeared during lifetime to be quite free from the uterus. The catamenia remained normal till four months before her death, which took place twelve hours after she had given birth to a four-months fœtus. This abortion was preceded by peritonitis and high temperature for several days.

Presented by C. G. Wheelhouse, Esq., 1877.

4640. An uterus, with a large, flattened, oval tumour attached to the external surface of its fundus. The long diameter of the tumour is placed across the cavity of the pelvis. Its structure is apparently softer and more homogeneous than that of the ordinary fibrous tumour, and it contains a cyst near one of its extremities. The condition of the uterus shows that it had very recently been pregnant.

Presented by R. R. Robinson, Esq.

4641. An uterus, to the superior external surface of the fundus of which a large, lobulated, composite fibrous tumour is attached. It is of oval form, the greatest diameter, from before backwards, being about six inches.

Presented by John Foote, Esq.

4642. Section of a large tumour, together with portions of intestine, mesentery, and omentum adherent to its surface. It was taken from the cavity of the abdomen, but probably had grown in or upon the walls of the uterus, and had been gradually detached from them. The tumour is kidney-shaped, seven inches in length and three and a half in width. It is composed of hard yellow earthy substance, deposited irregularly through a tough fibrous tissue, and exactly resembles the fibro-calcareous, or calcified fibrous, tumours of the uterus, which have ramified internal skeletons. Its external surface is minutely nodulated and rough; it is invested with a thin capsule of fibro-cellular tissue, to which all the adjacent abdominal organs appear to have been adherent.

From an old woman. The uterus was said to be "ossified;" probably it had smaller tumours of the same kind in its walls. One such tumour, closely attached to the uterus, was connected by a strong band with this which is here preserved; and the patient died in consequence of a portion of the intestine being strangulated by the band.

The other section of the tumour is preserved in No. 388.

From the Museum of John Howship, Esq.

4643. A half-section of a large fibrous tumour of the uterus. It is divided into two portions, the lower about a foot in diameter and smooth superficially, the upper smaller and more irregular. The cut surface shows numerous cavities, due to softening of the tissue.

From a married woman, aged 46, admitted into hospital with extreme ascites and in a sinking condition. She was tapped, and temporarily much relieved; but the fluid re-accumulating very rapidly, the abdomen was opened, and the tumour, which sprang from the right side and back part of the fundus uteri, was removed with the écraseur. The patient recovered completely, and was in very good health when last heard of, nine years after the operation. The case is recorded in the 'Medical Times and Gazette,' vol. ii. 1871, p. 129.

Presented by Sir T. Spencer Wells, 1871.

4643 A. One half of an uterine myo-fibroma, measuring seven and a half inches in its long diameter, and which weighed

four pounds and a quarter. Its section is firm and fibrous, but not distinctly fasciculated. Occupying one surface is a large cyst, of which the external wall is extremely thin; while the surface of the tumour, forming its inner wall, is irregularly broken-up and fissured.

Removed by operation from a middle-aged woman.

Presented by Sir T. Spencer Wells, 1883.

4644. A dense fibroid tumour, about four and a half inches in its longest diameter, removed during life from the inguinal canal. It appeared to be an excessive growth of the fibrous tissue of the round ligament of the uterus.

From a woman about 50 years of age, who recovered completely after the operation. The case is recorded, with another of the same kind, in the 'Transactions of the Pathological Society,' vol. xvii. p. 188.

Presented by Sir T. Spencer Wells, 1865.

4645. A fibrous tumour projecting from the exterior or peritoneal wall of the uterus towards its right upper extremity. It is about an inch in diameter, and the uterus is of the normal virgin-dimensions. A section through the tumour shows it to be undergoing a calcareous change.

Presented by Dr. Thurnam, 1871.

4646. A tumour, of the same kind and form, but much smaller, dried. It is said to have been "formed in the pelvis of an old woman, whose arteries were ossified. It was attached to each side of the pubes by membranous bands in the course of the round ligaments, and was suspended by them above the fundus of the bladder, appearing like a diseased uterus."

From the Museum of John Heaviside, Esq.

4647. A large calcareous mass, resulting from the degeneration of a fibroid tumour of the uterus.

It was removed by the forceps from a woman, aged 45, during

labour, which process it had much obstructed. (See Trans. Obstet. Soc. 1875, p. 172.)

Presented by Dr. A. Wynn Williams, 1877.

Mucous Polypi.

4648. Section of an uterus in which a small, flat, pedunculated growth, or mucous polypus, is attached to the mucous membrane lining the cavity of the cervix.

From the Museum of Sir A. P. Cooper.

4649. A cervix uteri, with two small, oval and flat, pedunculated, soft, and nearly transparent growths attached to its mucous membrane, and pendulous from it.

From the Museum of Robert Liston, Esq.

4650. A similar preparation, in which a rather larger growth of the same kind is attached to the interior of the cervix uteri, close to the os internum, by a narrow flat band, nearly an inch long. *From the Museum of Sir A. P. Cooper.*

4651. A similar preparation, with two such growths attached to the same part of the uterus; the larger springs from the cervix close to the os internum, the smaller from a point in the cervix one quarter of an inch lower down.

From the Museum of Sir A. P. Cooper.

4652. Portion of a cervix uteri, showing a small, flattened, pedunculated tumour protruding from the os externum. It springs from the mucous membrane of the canal of the cervix, but its origin cannot be seen.

From a woman about 30 years of age.

Presented by Dr. Arthur Farre, 1877.

4653. An uterus, with three or four small, flattened, club-shaped, mucous polypi attached to the mucous membrane of the cervix at its middle and upper parts. There are also several

fibrous tumours imbedded in the walls of the uterus near the fundus.

From a woman, 63 years of age, who died from hepatic disease and ascites, without having presented any uterine symptoms.

Presented by Thomas Safford Lee, Esq.

4654. A lobulated pedunculated polypus, removed during life from the cervix uteri.

It was of much larger size and rounder form when fresh, but collapsed after removal, in consequence of escape of fluid. It became further contracted by the action of spirit.

Presented by Sir Erasmus Wilson, 1870.

4655. A portion of a finely lobulated growth removed from the posterior part of the cervix uteri during life. A microscopical examination of the lobules, when recent, showed that they were composed of nucleated cells with a few blood-vessels, but no fibrous tissue, and covered externally with epithelial cells, resembling those of the adjoining mucous surfaces.

From a married woman, aged 40, who had had seven children and seven miscarriages. A rugous condition of the posterior lip of the os uteri was first detected on June 16th, 1843. On the 21st of February, 1845, the growth had attained the size of a small orange, and, on examination with the speculum, appeared like the top of a cauliflower, hard and firm to the touch, attached by a broad base, and covered with a sanguineous discharge. At this date it was removed with scissors; a small piece, however, appears to have been left. The patient recovered from the effects of the operation, but the tumour rapidly grew. On the 29th of May it had filled and distended the whole of the vaginal canal, and at the date of her death (September 19th), from pulmonary disease, it protruded between the labia.

The details of the case are in the Jacksonian Prize Dissertation on 'Tumours of the Uterus,' by T. S. Lee, London, 1847, p. 96.

Presented by Thomas Safford Lee, Esq.

4656. An uterus containing within its cavity a polypoid growth the pedicle of which is attached to the left angle of the fundus. The growth has taken the form of the uterine

cavity, and extends into the cervix. Its surface is covered with dilated uterine glands.

From a woman, aged 40, who died from the suppuration of a large ovarian cyst.

Presented by Alban Doran, Esq., 1881.

4657. A long pedunculated and lobed mucous polypus. It was nearly twice as large before its removal from the uterus.

Presented by John Morgan, Esq., 1881.

4658. An uterus from a patient who died a few days after the removal of an ovarian tumour. From its interior, on the left side, spring three elongated polypi, with very long pedicles. *Presented by Alban Doran, Esq.*, 1881.

4659. An uterus enlarged and laid open to show a soft pedunculated body, probably a very vascular mucous polypus, growing from the inner wall midway between the opening of the left Fallopian tube and the os internum. It was composed of a mass of convoluted blood-vessels with round nucleated cells between them. The left ureter is secured by a ligature, the kidney having been removed a few days before death; the right ureter is also shown, and at its upper part is somewhat dilated.

From the same case as the large cystic kidney, No. 3557 There were symptoms of early pregnancy, and a corpus luteum may be seen in the right ovary, but no fœtus was found in the uterine cavity after death. (See MS. Notes, vol. iii. p. 65.)

Presented by Sir T. Spencer Wells, 1877.

Cancer.

4660. An uterus, the cervix of which, together with part of the vagina, is destroyed by cancerous ulceration, The ovaries are slightly enlarged, and their surfaces are puckered.

The floor of the bladder was also involved, the disease extending close to the orifice of each ureter.

Presented by Sir T. Spencer Wells, 1865.

4661. An uterus, with the ovaries, broad ligaments, vagina, and other adjacent parts, exposed from behind. A broad flat growth of, apparently, medullary or epithelial cancer is attached to all the right and posterior part of the cervix uteri. The growth has a sharp, projecting and overhanging, irregularly sinuous border; it measures about four inches from side to side, two and a half inches from before backwards, and nearly an inch in thickness at its middle and thickest part. Its surface is smooth and sponge-like; its substance soft, filamentous, and shreddy. A ligature was tied round a part of its base, its substance having first been broken through; but the part tied does not appear altered in its texture. The uterus is large; its cavity is dilated; and on its left wall there is a small flat growth, half an inch in diameter, like a mucous polypus. The ovaries are both adherent to the sides of the uterus, and the broad ligaments are thickened. *Hunterian.*

4662. An uterus, with the ovaries, vagina, and other parts, exposed from behind. The prominent part of the cervix uteri, and all the adjacent portion of the vagina, are deeply ulcerated. The ulcer has an uneven shreddy base; and on the left side of the vagina there is a long piece of tissue, which has apparently sloughed from it. The border of the ulcer is not well defined or elevated; the tissues beneath it are thickened and indurated; its nature is doubtful, but most probably it had its origin in medullary cancer. The body of the uterus appears healthy: the ovaries are adherent to it. The mucous membrane of the bladder is superficially ulcerated; and the middle of its posterior wall is perforated by the ulceration extending from the upper part of the vagina. *Hunterian.*

4663. An uterus, with the ovaries and parts of the vagina, bladder, &c. An irregular ragged ulceration has destroyed nearly all the upper part of the vagina, and the surface of the cervix and adjacent part of the body of the uterus. The ulceration had been preceded by an abundant growth of

"cauliflower excrescence," which was thrown-off in separate portions. The tissues beneath the ulcer of the walls of the vagina are dense and indurated; and this change of structure extends in every direction to the attached surface of the peritoneum, where it is reflected from the uterus to the bladder and rectum; but the peritoneum itself is not diseased. The upper half of the uterus and the ovaries are healthy.

From an unmarried woman, 40 years old, who had discharge of watery fluid from the vagina for thirteen months before death. After the cessation of the catamenia, about six months before death, the discharge was sometimes mixed with blood. She became gradually very much emaciated. The inguinal glands enlarged, and she suffered lancinating pain in the lower part of the abdomen. The whole of the vagina appeared to be filled with the tumour, and portions were occasionally removed when spontaneously almost detached.

Presented by John Goss, Esq.

4664. An uterus removed entire during life. The os externum and cervix are widely open, and their mucous lining extensively destroyed by epitheliomatous ulceration, which has extended to the mucous membrane of the body of the uterus. The section through its walls, made to expose its cavity, also shows great thickening of the muscular tissue. The whole uterus felt, when recently removed, remarkably firm and rigid.

Microscopical examination showed that the growth was epitheliomatous, with much infiltration of the uterine walls.

From a woman aged 54. She had been subject to cancer of the uterus for twelve months. The uterus, before operation, was fairly movable, and no abnormal condition of the surrounding structures could be detected. It was removed by an incision through the abdomen. The patient died of septic peritonitis in forty-three hours.

Presented by Dr. G. Granville Bantock, 1881.

4664 A. A pregnant uterus, the cervix of which is affected with epithelioma; it was removed during life with a fœtus, measuring ten inches and three quarters in length and

weighing fourteen ounces. The disease forms a fungoid mass growing from the cervix, and has involved the vagina, a portion of which is attached to the uterus. On the anterior surface of the cervix is a rent with the fœtal membranes protruding from it; through this the fœtus was removed during the operation, the umbilical cord being divided.

The patient recovered from the operation without a bad symptom, but the growth recurred in the vaginal cicatrix and left iliac fossa, and she died thirteen months after the operation. (See Trans. Medico-Chirurgical Soc. vol. lxv. 1882, and the donor's 'Diagnosis and Surgical Treatment of Abdominal Tumours.')

Presented by Sir T. Spencer Wells, 1881.

4665. An uterus, with the ovaries, and other adjacent parts, exposed from behind. The cervix, and the lower half of the body of the uterus, are involved in a large growth of soft medullary substance, which is ulcerated and broken-down into a pulpy, flocculent, and finely shreddy texture. The uterus is enlarged. At the upper part of its cavity the sinuous and slightly elevated border of the ulceration may be discerned. The ovaries, bladder, and other adjacent parts are healthy. *Hunterian.*

4666. An uterus, of which the cervix, together with all that part of the vagina which was attached to it, has been destroyed by cancerous ulceration. The uterus itself is enlarged near the ulcerated part, but the ovaries, Fallopian tubes, and broad ligaments are healthy. *Hunterian.*

4667. An uterus, with the adjacent parts. The cervix, upper part of the anterior wall of the vagina, and the corresponding part of the posterior wall of the bladder have been destroyed by the deposition and subsequent breaking down of cancerous material within them, causing a large opening between the vagina and bladder, the tissues around the edge of which are softened, flocculent, and shreddy. The fundus of the uterus is unaffected by the disease.

Presented by R. R. Robinson, Esq.

4668. The upper parts of an uterus and bladder, the lower third of each having been wholly destroyed by cancerous ulceration. The remaining portions of the organs appear healthy in structure, except at the parts exposed by the ulceration, which are uneven, rough, shreddy, and flocculent. Bougies are placed in the ureters.

4669. Parts of an uterus, urinary bladder, vagina, &c. The posterior wall of the bladder, the lower half of the uterus, and all the upper part of the vagina, have been destroyed by carcinomatous ulceration. Their remains are ulcerated and shreddy, and have numerous large sloughing and nearly detached portions of ulcerated tissues hanging from them. The enlarged upper half of the body of the uterus remains, and a quill is placed in its cavity. This, and the remains of the urinary bladder and of the external part of the vagina, serve to mark the relative positions of the organs; their forms are hardly discernible. *Hunterian.*

4670. An uterus, with parts of the bladder, vagina, and rectum. By carcinomatous ulceration the lower two thirds of the uterus, together with the adjacent parts of the walls of the bladder and vagina, have been destroyed, so that the bladder and vagina appear to form one large cavity, with coarsely ulcerated walls. The ulceration has also extended into the rectum, a small aperture in which is indicated by a portion of whalebone, and through the fundus of the uterus, opening into the peritoneal cavity by an aperture half an inch in diameter. The tissues immediately adjacent to the ulcerated parts appear swollen.

4671. An uterus, with the vagina and bladder. Nearly the whole of the uterus has been destroyed by carcinomatous ulceration; the remains of its fundus are soft and shreddy. The surface of the vagina, by the extension of the same process, is rough, and covered with sloughing shreds of tissue; the neck of the bladder, and the lower half of its posterior wall, are in a similar state; and the ovaries are converted into

hard carcinomatous masses, each more than an inch in diameter.

From a woman 68 years old. A portion of glass marks the situation of the urethra.

Presented by George Langstaff, Esq.

4672. A section of an uterus, which has been greatly enlarged by the growth of masses of medullary substance in its walls. The morbid substance is soft, and in many parts broken and coarsely granular. It forms a large irregular mass, involving the substance of the inferior two thirds of the posterior wall of the uterus, and a similar mass involving the superior two thirds of the anterior wall. Both the masses project into the cavity of the uterus, elongating it and altering its shape. Its interior, also, is superficially ulcerated.

From a woman 55 years old. She received a violent blow on the lower part of the abdomen eighteen months before death, and the disease appeared from that time to make progress.

Presented by John Pearson, Esq.

Other specimens of Injuries and Diseases of the Uterus may be found by reference to the Series of Injuries and Diseases Incidental to Gestation and Parturition.

Series LVII. INJURIES AND DISEASES OF THE VAGINA AND EXTERNAL ORGANS OF GENERATION IN THE FEMALE.

Injuries and Diseases of the Vagina: 4673 to 4677.
Injuries and Diseases of the Labia and Clitoris: 4678 to 4690 A.

Injuries and Diseases of the Vagina.

Laceration: 4673.
Ulceration: 4674.
Morbid Growths: 4675 to 4677.

Laceration.

4673. A vagina and uterus. There is a large ragged laceration of the cul-de-sac or posterior and upper extremity of the vagina.

From a woman, aged 30, who introduced a candle into the vagina, with considerable force; she could not withdraw it, and died in a few days from acute peritonitis. The candle was found protruding, through the rent in the vagina, into the peritoneal cavity.

Presented by Ezra Harle, Esq., 1880.

Ulceration.

4674. An uterus and part of a vagina. The substance of the uterus is extremely dense and hard, but its form is unaltered. In the upper part of the vagina there are numerous small ulcers. Some of them are oval or round, others irregular in their outlines; they all have sharp, abrupt, but not elevated, borders, and their bases are smooth, and do

not appear to be indurated. None of them penetrates further than the submucous tissue. *Hunterian.*

Morbid Growths.

4675. A cyst, about an inch in diameter, with thin and perfectly smooth walls, beneath the mucous membrane of the vagina, the rugæ of which are effaced on its surface. It may be seen (on examining the specimen posteriorly) to lie close to the urethra. When opened it contained a glairy, transparent, yellowish fluid.

From a woman, aged 39, who died twenty hours after the removal of a large malignant tumour of the right ovary. The cyst caused no inconvenience during the patient's lifetime.

Presented by Alban Doran, Esq., 1878.

4676. An uterus, vagina, and urinary bladder. A large irregular opening has been formed, probably by cancerous ulceration of the adjacent walls of the vagina and bladder, and around the aperture there are sloughs and large pieces of lymph. There are also remains of adhesions over the whole peritoneal surface of the uterus and ovaries. *Hunterian.*

4677. Parts of a vagina and bladder. A large oval, circumscribed, and probably cancerous ulcer, extends around the whole circumference of the vagina, and presents a rough sloughing surface. At one part the ulceration has extended through the posterior wall of the bladder, in which it presents in a smaller extent the same general characters.

Hunterian.

Injuries and Diseases of the Clitoris and Labium.

Ulceration: 4678.
Enlargement: 4679 to 4687.
Morbid Growths: 4688 to 4690.
Contraction: 4690 A.

Ulceration.

4678. The labia pudendi of an infant, enlarged, swollen, and superficially ulcerated on their anterior surfaces.

Hunterian.

Enlargement or Hypertrophy.

4679. The external organs of generation of a woman, with round smooth enlargement of each of the nymphæ.

[*From the Museum of John Heaviside, Esq.*

4680. Two nymphæ, similarly enlarged and indurated. Their surface is like that of healthy skin, but lobed and wrinkled.

Hunterian.

4681. Nymphæ, similarly enlarged. *Hunterian.*

4682. Two nymphæ, removed by operation. The right nympha is considerably enlarged and indurated, and there is an aperture through its whole thickness formed by ulceration. Behind the aperture is another ulcer, extending less deeply, and completely healed.

From the Museum of George Langstaff, Esq.

4683. Nymphæ, similarly diseased. The right nympha is more than four times as large as the left: it is of an oval form, measuring three inches in length, and an inch and a half in thickness. A section shows that it is composed of a uniform pale, dense, skin-like texture; its surface is coarsely wrinkled and warty; it is covered with thin cuticle. The structure of all the preceding diseased nymphæ is probably similar to that of this specimen. *Hunterian.*

4684. The external organs of generation of a woman, in whom a lobulated tumour was formed, apparently by enlargement of the prepuce of the clitoris.

From the Museum of John Heaviside, Esq.

4685. A large growth, from the external genital organs of a woman, consisting of a lobulated hypertrophy of the prepuce of the clitoris and the nymphæ. The clitoris itself is also enlarged.

Removed from a woman aged 22. She had had no venereal disease. The growth was of between two and three years' duration.

Presented by Richard Partridge, Esq., 1865.

4686. Parts of the external genital organs of a woman, enormously enlarged. The parts preserved consist of four distinct portions, two at the sides and two in the middle between them. The two lateral portions are probably the labia, each of which is six inches in length and two or three inches in width. Their surfaces are dark, deeply lobed, and wrinkled ; they appear to be composed of firm skin-like tissue, and are covered with a thin epidermis. These two portions are united above by a narrow isthmus, from the front of which are suspended the two middle portions, which may be considered as the enlarged clitoris and its prepuce. They form two irregularly-rounded masses, attached above by narrow pedicles, and presenting the same external characters as the enlarged labia. The lowest of the two, which is also rather the largest, measures four inches and a half in one, and three inches in another diameter. The section of one of them shows that it is composed of a compact, pale, yellowish-white tissue, like that of tough skin, uniform, and constituting the whole of the enlargement, not isolated like a tumour imbedded in other tissue.

Hunterian.

4687. The labia pudendi enlarged as in the preceding specimen. The right labium is much the larger.

Presented by Dr. C. H. Drury, 1874.

Morbid Growths.

4688. A portion of a tumour, removed by operation from a labium. It weighed upwards of ten pounds, and is six inches in diameter. It is covered with healthy skin ; and consists of a pale and compact, but soft and elastic, tissue, traversed in some parts by irregular shining fibres, and in others having several small oval cavities in it.

The patient was 30 years old. The tumour had been growing many years, and there was another similar to it, but smaller, lower down in the labium. The patient recovered after the operation.

From the Museum of Robert Liston, Esq.

4689. Female external organs of generation, showing numerous small papillary growths on the labia, the clitoris, and the orifice of the urethra and vagina.

From a woman, aged 20, who died with puerperal convulsions.

Presented by Dr. Lediard, 1877.

4690. The integuments of the front of the pubes affected with epithelioma. The surface is deformed by an irregular ulcer which has a somewhat granular surface, and a very little thickening of the edge.

Presented by Spencer Watson, Esq., 1875.

Concretion.

4690 A. A concretion removed from a labium major of a patient aged 47. It is oval in form, but slightly irregular, and its long diameter is about one inch.

It lay in the substance of, not beneath, the skin, and was covered with a thin layer of cuticle, penetrated by numerous apertures discharging pus. The swelling to which the concretion gave rise had been the cause of much inconvenience for many years. It probably had formed within the duct of a gland of Bartholini.

Presented by Lawson Tait, Esq., 1883.

Series LVIII. INJURIES AND DISEASES INCIDENTAL TO GESTATION AND PARTURITION.

Extra-uterine Gestation : 4691 to 4700.
Retained Fœtus : 4701 to 4709.
Retained Fœtus in Extra-uterine Cysts : 4710 to 4714.
Injuries and Diseases of Placenta and Cord : 4715 to 4722.
Tumours of the Pregnant Uterus : 4723, 4724.
Inversion of Uterus during Labour : 4725 to 4727.
Rupture of Uterus and Vagina : 4728 to 4732.
Fistulous communications between Vagina, Bladder, and Intestines following Labour : 4733 to 4737.
Expulsion of the Fœtus through the Rectum : 4738.
Thrombosis of Veins of Uterus and its Appendages : 4738 A.

Extra-uterine Gestation.

4691. An uterus and its appendages from a case of interstitial or tubo-uterine gestation. The right side of the fundus is dilated and rent asunder by a long ragged aperture exposing a cavity which measures one and a half inches vertically, and half an inch antero-posteriorly. Its walls are very thin along the line of laceration. The cavity bulges, at its lower part, into the upper part of the interior of the uterus, and here its walls are much thicker. Its inner surface is rough and reticulated. From some of its numerous pits and depressions hang broken-off portions of chorion, but there is not a trace of a distinct decidua. The right Fallopian tube passes into the outer and anterior aspect of the wall of the cyst, expanding slightly into a funnel-shaped orifice, which opens into the cavity close to the rent in its walls. At the extreme upper and inner part of the cavity of the cyst is the continuation of the tube, which terminates by a funnel-shaped opening in the uterine cavity, where its wall is bulged inwards. These orifices are marked by a stout bristle. The uterus is five inches long from the

fundus to the os externum. Its walls posteriorly are from a fifth to a quarter of an inch thick, and the cavity is lined with a decidua. The right ovary contains a true corpus luteum.

From a healthy married woman aged 32. She had had two children, of whom the younger was fourteen months old, and had been weaned about two months; she had not menstruated during lactation, or since the weaning of her last child. One evening, when in bed, she was seized with severe abdominal pains, accompanied by sickness and slight diarrhœa, but her abdomen was not swollen or tender. She rapidly became collapsed, and died in twelve hours from the commencement of the attack. Her abdominal cavity contained nearly six pounds of clot and five pints of a bloody fluid, in which floated a fœtus. (See an account by Mr. Alban Doran in Trans. Obstetrical Soc. vol. xxiv. 1882, p. 227.)

Presented, with the following specimen, by Carr H. Roberts, Esq., 1883.

4691 A. The fœtus and membranes from the same case as the preceding specimen. The fœtus measures one inch and a half in length, and is, probably, in the second month of development.

4692. An uterus, with the Fallopian tubes, ovaries, &c. The right Fallopian tube, near its outer end, is dilated into a sac, about an inch and a half in diameter, by a retained ovum. The ovum is laid open, and a fœtus, nearly an inch in length, with the extremities just budding, and parts of the amnion and other membranes, are exposed. There is a large corpus luteum in the right ovary. The uterus contains no decidua, nor has the injection of its vessels displayed any increased vascularity.

4692 A. An uterus, with the Fallopian tubes and ovaries. The middle portion of the left Fallopian tube is dilated into an oval cyst, filled with coagulated blood, in the anterior wall of which is a ragged opening, through which the small fœtus suspended to the preparation had escaped. Clots of blood are adhering to the uterine ligaments and the peritoneum. The uterus is enlarged as in the early stages of pregnancy, and when recent was said to have been "vas-

cular with a slight decidua." The os uteri was closed by a gelatinous secretion.

E. H., aged 36, married and the mother of one child, whilst carrying a heavy burden, suddenly became faint and fell down. She was found in this state by her neighbours, and carried home. When seen soon after by her medical attendant, she was suffering from great exhaustion, perfectly conscious, and did not complain of pain, except a little at the pit of the stomach, which had existed for several weeks. There had been no vomiting. Stimuli were administered, warmth applied to the extremities, and an aperient ordered. On the following morning she was found with a bloodless countenance and a feeble fluttering pulse, but without any pain. In the course of the day, while being lifted on to a night-stool, she expired. When the abdomen was opened, a fœtus, scarcely two inches in length, was found floating in serum above an immense coagulum of blood, which filled the pelvis and lower portion of the abdomen. The viscera generally were healthy, but bloodless.

Presented by John Prankerd, Esq.

4693. A specimen of tubal extra-uterine fœtation. Within the Fallopian tube is seen a very small fœtus enclosed in its membranes. There is a decidua within the cavity of the uterus. *Presented by Sir Erasmus Wilson*, 1870.

4694. An uterus and its appendages, showing a large dilatation of the right Fallopian tube, which contains a fœtus of about the third month, connected by a well-formed umbilical cord to a placenta lining the walls of the dilatation. The cord is inserted into the aspect of the placenta which is attached to the anterior inferior part of the dilated tube. The corresponding ovary, much flattened and atrophied, is completely concealed by the cyst. The left tube is also dilated to more than half an inch in diameter, and its fimbriæ are effaced; it passes under the ovary, which is atrophied and flattened, as on the right side. The ovary and tube were partly united by old adhesions.

The cavity of the uterus is laid open anteriorly, and on it is suspended a decidua, cast from it a day before the patient's death.

From a woman, aged 22, admitted into hospital for severe pains in the hypogastrium, of a month's duration. She asserted that she had menstruated regularly till a few days before admission. A hypogastric tumour was discovered; it appeared to contain

fluid, and to be surrounded by large pulsating vessels. Because of the peculiar discoloration of the inner aspect of the vulva, pregnancy was suspected. The tumour was tapped *per rectum* with an aspirator, and a pint of bloody fluid was thus removed. A styptic solution was injected to check hæmorrhage, and at once removed. The patient died suddenly four days later, having passed a decidua on the third day. Blood was found diffused over the peritoneum and issuing from an aperture in the upper part of the back of the tubal cyst. For a full account of the case, see Trans. Obstet. Soc. vol. xxi. p. 93.

Presented by Dr. C. H. F. Routh, 1878.

4695. A right Fallopian tube, showing a dilatation more than an inch in diameter near its uterine extremity. This dilatation contains a placenta, cord, and fœtal membranes; but the ovum, which was an embryo apparently of the fourth or fifth week, has been lost. Bristles are passed into the fimbriated extremity of the tube, which has been partly laid open; and into the uterine extremity, which opens into the dilatation. Flakes of lymph cover both surfaces of the broad ligament.

From a woman, aged 33, who, when not aware of being pregnant, was seized with severe abdominal pains and collapse during defæcation. She died within nine hours. Three quarts of blood were found in the abdominal cavity, and large clots in the pelvis. The left ovary contained a corpus luteum; the right had none, but a small cyst grew from its surface. (See Brit. Med. Journ. vol. i. 1878, p. 533.)

Presented by Dr. Walter G. Lowe, 1878.

4695 A. A Fallopian tube and ovary. In the tube, nearly an inch from the fimbriated extremity, is a spherical dilatation nearly a quarter of an inch in diameter, continuous with the canal of the tube on both sides. When fresh it held a body suspected to be an ovum.

From a woman, aged 25, who died of peritonitis forty-four hours after the removal of the opposite ovary. The case is recorded in Sir Spencer Wells's 'Diseases of the Ovaries,' 1st edit. case LIV. p. 140.

Presented by Sir T. Spencer Wells, 1872.

4696. An uterus, with its appendages. The fimbriated end of the left Fallopian tube is dilated into a thick-walled cyst two inches in diameter, which contains a fœtus three quarters of an inch long, with its membranes and placenta. The corresponding ovary has been laid open, and shows a well-formed corpus luteum with a central cavity. The right ovary is about two inches in its longest diameter; it is in a state of incipient cystic degeneration, showing on section three large cysts, a very small amount of stroma, and no corpora lutea. Covering the peritoneum, which invests the back of the uterus, was a thick layer of decolorized fibrine, which is partially turned downwards; it probably represents one of the attacks of hæmorrhage which preceded the patient's death. The surface of the uterus, exposed anteriorly, is rough, being deprived of a decidua which had formed within it.

From a lady, aged 31, the mother of three children. Four months before her death she ceased to menstruate: two months later an attack of severe hypogastric pain and collapse occurred, and in eight days a perfect decidua was discharged. This was followed in a few days by a second attack of pain in the hypogastrium, and a swelling above and to the left of the vagina was detected. She died within ten minutes of a third attack. Three thin layers of coagula were found in Douglas's pouch: the deepest, displayed in this specimen, most probably represents the first attack of hæmorrhage; the middle layer was decolorized, but soft, and may have been the result of the second attack; the third was soft and dark red, evidently quite recent. (See Trans. Obstet. Soc. vol. xxi. p. 169.)

Presented by Alban Doran, Esq., 1878.

4697. A cyst, about eight inches long, measured vertically, and containing a fœtus of about the eighth month, with cord and placenta. The right Fallopian tube is lost on its surface, and between it and the visible part of the tube the ovary may be seen. The left Fallopian tube is distinct from the cyst; its fimbriated extremity has been cut away. The left ovary, extremely flattened and atrophied, cannot be seen, as it lies deeply hidden between the cyst and the side of the left broad ligament. The rectum (the circular fibres of which are exposed) is closely adherent to the back of the

cyst; the uterus, five inches in length, contains a well-formed decidua. The fœtus, which has an encephalocele covered by the cyst, is kept in the position it held at death; it lies with its head in Douglas's pouch, below the upper part of the vagina; the occiput looks to the left, and the right parietal bone is the most forward.

From a woman aged 34. For several months before her death she was suspected of being the subject of malignant disease of the ovary; repeated hæmorrhages had occurred, which were taken for menstruation; other symptoms of pregnancy were absent, and the mammæ were small and pendulous to the last. She died rather suddenly in the night, a few days after admission into hospital. The peritoneal cavity was found filled with coagula, which issued from a rent in the upper and anterior part of the cyst. The case is mentioned (by the donor) in the discussion on Mr. Lawson Tait's paper on "A Second Successful Case of Gastrotomy for Extra-Uterine Pregnancy," read before the Royal Medico-Chirurgical Society, Nov. 11th, 1879 (see Brit. Med. Journ, vol. ii. 1879, p. 779, and 'Lancet,' vol. ii. 1879, p. 731).

Presented by J. Knowsley Thornton, Esq., 1878.

4698. A specimen of extra-uterine fœtation, successfully removed by abdominal section. At the lower part of the preparation is a small compressed fœtus lying in a fibrous sac, probably formed by the dilated Fallopian tube, to which its limbs and back are adherent. Below it is a large mass of spongy tissue, connected with the fœtus by the umbilical cord. It consisted of a loose structure resembling fibrin, with much blood in its meshes.

From a woman, aged 28, who ceased to menstruate in June 1881. In January 1882 the uterine decidua was passed. The diagnosis was then very obscure, the physical signs resembling those of uterine fibro-myoma. The operation was performed on February 28th, 1882, and the patient left the hospital quite well, March 24th, 1882. (See Trans. Obstet. Soc. vol. xxiv. 1882, p. 81.)

Presented by J. Knowsley Thornton, Esq., 1882.

4699. A female fœtus, removed from a cyst in the right side of abdomen, six months after completion of pregnancy. The length of the child is two feet; from the top of the head

to the umbilicus, ten and a half inches. Its weight was four pounds three ounces. The urachus and umbilical vessels were open. There was much meconium in the intestines. The nails are long and well developed. The head is well covered with fine, long, and light-brown hair. The parietal bones were slightly displaced, and overlapped by the occipital and frontal bones. Both corneæ were opaque, and the eyes shrunken. There was no offensive odour or sign of decomposition, except that the cuticle peeled-off in large flakes.

The mother of the child, aged 28, had been married eight years, but had never before been pregnant. In February 1859 menstruation ceased; in June the movements of the child were felt, and the breasts began to enlarge; in the beginning of November, when the confinement was expected, a discharge took place from the vagina, and blood and pieces of flesh-like substance were expelled in gushes; in the following February menstruation recommenced, and soon after, the secretion of milk ceased. On her admission into the London Hospital, a hard oval tumour was felt, principally on the right side of the abdomen, extending from above the umbilicus to the right side of the symphysis pubis. On the 31st of May the operation of gastrotomy was performed by Mr. Adams. An incision, five inches in length, was made in a vertical direction over the most prominent part of the tumour, the peritoneum was opened, and the surface of the tumour brought into view, presenting a glistening aspect, and only slightly adherent at this part. On opening the cyst a pint of greenish-yellow, transparent fluid escaped, with yellowish flakes of *vernix caseosa* and some hairs. The fœtus, found lying with the head uppermost and the face towards the spine, was extracted. The placenta, being adherent, was allowed to remain; the funis was divided, the attached portion being placed in the wound, which was then closed by interrupted sutures. The patient recovered completely. There remained for some time a small fistulous opening, from which pus was discharged, but ultimately it closed up. The funis, which, on its first appearance during the operation, was thick and œdematous, shrivelled and was altogether lost sight of on the fifth day after the operation, having probably escaped among the discharges.

The case is reported in the 'Medico-Chirurgical Transactions,' vol. xliv. p. 1.

Presented by John Adams, Esq., 1860.

4700. Part of the abdomen of a Fowl, in which three ova, instead of being received into the oviduct, escaped into the peritoneal cavity, where they have become coated with

lymph, and have contracted adhesions to the neighbouring parts. On one ovum there is a single band of adhesion, which has become much elongated, forming a narrow pedicle, an inch and a half long, by which alone it is attached to the abdominal wall.

Presented by W. B. Tegetmeier, Esq., 1854.

Retained Fœtus.

4701. A portion of the skin and subjacent muscles of a Calf which was retained in the uterus two years beyond the ordinary period of gestation. All the tissues appear fresh and healthy. *Hunterian.*

4702. One of the feet of the same Calf, the tissues of which are equally sound. *Hunterian.*

4703. The os uteri of a Cow, whose uterus had contained twin calves for nearly two years. When the cow was killed, the calves were found almost fully developed, but much compressed against each other. Their flesh was dry, but neither putrid nor in any other way altered. The umbilical cords were dry and flattened; the fœtal membranes and cotyledons had separated from the uterus. The uterus had become very thin, and contained no fluid. The amnion and chorion were dry, tough, and black, and adhered to the uterus and to the calves by a very thick viscid substance, like half-dried glue. The os uteri was small, and plugged with very firm jelly-like substance, which extended for some distance into the neck of the uterus.

The right ovary, with two corpora lutea, is preserved in the "Physiological Series," No. 3691A. The cow had twice before borne single calves. She was six years old when killed.

Presented by William Lynn, Esq.

4704. Portion of the horn of the uterus of a Sheep, containing the head and one of the feet of a lamb, which remained in

the uterus beyond the ordinary period of gestation and became adherent to the surrounding uterine wall.

Hunterian.

4705. Section of the wall of the same uterus, exhibiting strong and well-organized adhesions between its inner surface and the skin of the neck of the lamb. *Hunterian.*

4706. Another section, exhibiting similar adhesions between the uterus and one of the hind legs of the lamb. *Hunterian.*

4707. "A part of the uterus of a Sow, in which the young pig had died and become rotten, by which the mother also died" (*Hunterian MS. Catalogue*).

4708. Part of one of the horns of the uterus of a Sheep, distended by the bones of a lamb which died at an early period of gestation. The soft parts have been almost completely removed from the bones; the textures of the horn of the uterus appear healthy. *Presented by Sir Everard Home.*

4709. Part of an uterus, containing the bones of a lamb which died in it at an early period of gestation. The soft parts have been completely removed from the bones during their retention in the uterus, and the bones look as if they had been cleanly macerated. *Presented by —— Hallam, Esq.*

Retained Fœtus in Extra-Uterine Cysts.

4710. A fœtus, almost completely developed, but compressed and dried, so that little more than the bones remain to indicate its previous form. It is reduced to a flattened irregular mass, about four inches long and from two to three inches wide. The general form of the head, and the outlines of its several bones, as well as some of the ribs, the fore-arms

and hands, the knee-joints, and parts of the lower extremities are distinct; but the parts between them are shrivelled and partly "ossified."

The fœtus was removed by operation from the Fallopian tube (as it was believed) of a woman, in whom it had been retained for more than fourteen years beyond the ordinary period of gestation. The patient recovered, and lived for a long time afterwards at Hamburg, where the operation was performed. The preparation had been for many years in a museum in that town, before it was brought to England and purchased by the College.

4711. A section of a fœtus, which, after arriving at maturity, was retained for fifty-two years beyond the ordinary period of utero-gestation. It was enclosed in an osseous sac, a part of which is adherent to its arm and trunk. The fœtus was rolled-up, and compressed into a firm globular mass; but, on unrolling it, the forms of all its limbs and features have become distinct, and, except by its being rendered firm and dry by the compression, its tissues appear scarcely altered. The skin was in many parts adherent to the interior of the cyst, and was torn in separating them.

Presented by Sir William Lawrence.

4712. An arm and leg of the same fœtus, together with a portion of the osseous cyst, in which they are tightly impacted and adherent to its walls. The walls of the cyst are a line in thickness, and appear to be composed of true bone.

Presented by Sir William Lawrence.

4713. Some of the bones of a leg and arm, from the same fœtus.

The following account of the case is from "The History of a Child retained in the Mother Fifty-two years after the usual period of Utero-Gestation," by R. B. Cheston, M.D., F.R.S., in the 'Medico-Chirurgical Transactions,' vol. v. (London, 1814):—

The patient, when she was 27 years old, became pregnant with her fourth child. She completed the ordinary period of gestation with no unusual symptoms, and at its termination signs of labour commenced. Her pains were lingering, and continued for three

days without any progress towards the delivery of the child, and then, returning at intervals, gradually abated. She continued weak and ill for three months; then recovered her strength, and, except that her abdomen remained large, suffered no inconvenience and lived an active life. In her eightieth year she had a slight paralytic seizure, and soon afterwards died with gangræna senilis.

The upper part of the vagina was found in a natural state. The edges of the os uteri were very thin. The "substance of the uterus, though diminished in thickness, still retained somewhat of its natural structure; its internal surface exhibited very clear remains of the plaited appearance which characterizes the cervix for about three inches, when it became contracted to an obtuse point, with an aperture which just admitted the round end of a probe to pass onwards in a straight direction." The Fallopian tubes were healthy; but the ovaries could not be found.

The osseous sac containing the fœtus was adherent to the surrounding parts; it "resembled a human cranium of a middle size, but rather round than oblong, weighing, with its contents, three pounds one ounce four drachms."

"The position of the child in the cyst was very similar to that which it holds in the uterus, in which the body and limbs are brought nearly into a globular form. The spine was incurvated, the head bent forwards upon the chest and the pelvis upon the abdomen, and the limbs folded between the pelvis and head. All the parts were most forcibly squeezed together by the bony cyst; hence the limbs were all distorted and deformed, and the figure of every part variously affected. Towards the middle of the tumour the body and limbs, when carefully separated, were found in the most complete state of preservation; the skin, adipose tissue, and muscles retained much of their natural consistence and characteristic appearances; but parts were much less distinct on the circumference, from the strong adhesion of the bony covering to the whole surface of the mass. The cyst grew so firmly to the child, that it could only be separated by very forcible means..... It seemed that the cyst had absorbed the integuments and muscles of the parts which were situated in contact with it; thus, in one of the arms, which occupied this position, I found that half of the limb which was turned towards the centre as full and plump as usual, while the other portion, lying towards the circumference, had lost all the soft parts down to the bone, which was in contact with the cyst and firmly compressed by it through its whole extent. The scalp, on which there were some trifling remains of hair, had lost its firmness and consistence, so as to separate from the cranium on the slightest touch. The integuments of the face, body, and limbs still retained so much of their natural plumpness that, by the compression, the contiguous parts were reciprocally indented. The contents of the thorax and abdomen retained much of their natural appearance, and not the least tendency to putrefaction could be observed in any of them. The brain was rather more firm than in its recent condition, and nearly of its natural colour. The lungs were in a compact state. The liver was of a

dark brown or umber colour, and the intestines deviated but little from their usual membranous appearance, though compressed together into an irregular mass.....Of blood there was not the slightest appearance. The muscles, instead of being of a bright red and fleshy, were of a brown hue; and the integuments possessed a very light-brown or yellowish tint.....The bones were brown, and drier than usual; they separated very easily from the periosteum and epiphyses. Of the membranes, placenta, and navel-string I could not discover any remains, excepting the insertion of the latter into the body of the child."

Presented by Dr. Cheston.

4714. "The greater part of the bones of a mature fœtus, which were taken from an abscess near the umbilicus of a woman about 26 years old, at St. George's Hospital. The fœtus had been retained about four years after its death, which was ascribed to its mother's sudden anxiety and exertion in having let a favourite bird escape from a cage."

Presented by John Gunning, Esq.

Injuries and Diseases of the Placenta and Umbilical Cord.

4715. A fœtus at the eighth month of utero-gestation, with a very small and diseased placenta. The whole of the organs had a yellowish and bloodless aspect, and in various parts were flattened circular nodules of amber-yellow colour and thicker than the rest of the placenta. They were not unlike syphilitic gummata; under the microscope they appeared to have been due to an inflammatory process, attended or followed by fatty degeneration.

From a woman who had borne four children before giving birth to this fœtus. Two of them were of weak intellect. No distinct history of syphilis could be obtained. For a full history of the case, see MS. Notes, vol. i. p. 445.

Presented by Dr. C. H. Bennett, 1872.

4716. A chorion, with numerous thick-walled cysts in it. These projected into the interior, pushing forward the amnion, and they contained a dark sanguineous fluid. The appearance of

the specimen suggests that some hæmorrhage occurred and led to the formation of blood-bullæ.

Expelled by a married woman in whom the signs of pregnancy had commenced.

Presented by J. Knaggs, Esq., 1866.

4717. Part of an uterus, to the upper and left wall of the cavity of which a portion of placenta remained adhering after delivery. At the part to which the placenta is attached the uterus is less contracted than in the rest of its walls; so that the portion of placenta appears lodged in a deep pit, to which there is a corresponding elevation outside the uterus.

Presented by —— Delisser, Esq.

4718. A fully-developed placenta, to the side of which was attached a large mass of pedunculated cysts, the so-called "hydatids" of the chorion.

4719. A chorion covered with numerous minute pedunculated cysts. *Presented by Lawson Tait, Esq.*, 1881.

4720. Portion of a chorion, covered with numerous clustered and pedunculated pellucid vesicles or cysts, ranging in size from that of a pin's head to that of a grape, commonly described as "hydatids" of the chorion.

From the Museum of John Heaviside, Esq.

4721. A portion of an umbilical cord, which was found at birth tied in a knot. *Presented by Dr. P. B. Ayres.*

4722. A similar specimen. *Presented by R. R. Robinson, Esq.*

Tumours of the Pregnant Uterus.

4723. A section of a pregnant uterus, with its placenta. In the anterior lip of the cervix is a fibroid growth about two inches in diameter.

From a young married woman, who died towards the end of

pregnancy from profuse hæmorrhage, which was believed to proceed from the surface of the tumour; but injection after death failed to detect rupture of any vessel either in the tumour, the uterus, or the placenta. The other half of the section is preserved in the museum of Guy's Hospital.

Presented by Dr. Goodhart, 1875.

4724. A pregnant uterus, with a half of a myo-fibromatous tumour attached by a broad and short pedicle to its fundus and right side. The tumour is ten inches in length and five in thickness, and its cut surface shows irregular cavities, the result of degeneration.

Removed by operation from a woman, aged 38, who was in the fourth month of pregnancy. She recovered without a bad symptom. (See Brit. Med. Journ. vol. ii. 1882, p. 143.)

Presented by J. Knowsley Thornton, Esq., 1883.

Inversion of the Uterus.

4725. A vagina, uterus, and appendages. The fundus of the uterus is inverted, and protruded through the os, forming, in the upper part of the vagina, an oblong rounded tumour, three-quarters of an inch in length, an inch and a half in transverse diameter, and about four inches in circumference at the widest part, close to the os. The anterior lip of the os uteri, thin and narrow, rests on the tumour without constricting it; the posterior is flattened and indistinct. The Fallopian tubes and round ligaments are drawn inwards and downwards with the fundus. In the left ovary is a cyst, the size of a small hen's egg, which contained a sanguineous fluid. There are a few fibres of lymph between the adjacent surfaces of peritoneum covering the depressed fundus. When the parts were recent it was quite impossible to reinvert the uterus.

This specimen is figured in the thirty-fifth volume of the 'Medico-Chirurgical Transactions' (1852), with a detailed history of the case, of which the following is an abstract:—Mrs. A. B., aged 25, was confined with her first child on the 23rd April, 1850. Up to that date she had enjoyed good health, and had passed through the term of her pregnancy with less than the usual inconvenience. The labour proceeded well under natural presen-

tation for fourteen hours, when the pains nearly left her. The os uteri being fully dilated and yielding, a dose of ergot was given and repeated in an hour. This had its full effect, and in about two hours the head had descended into the pelvis; but the case now became complicated by a loop of funis slipping down in advance of it. With the view of saving the life of the child the forceps were applied; but, though the delivery was easily effected, the child was dead. The placenta was expelled in a few minutes without assistance, and the uterus contracted well. After the lapse of an hour hæmorrhage took place, and the patient became very faint; but the medical gentleman then in charge stated that, before he left her, all bleeding had ceased, that the uterus was firmly contracted, and that everything was right. She passed a comfortable night, and for the next three days all went on satisfactorily. The bowels were moved on the third day by medicine; but a few days afterwards she stated that the action was attended with much straining and pain, and that she felt as if something had come down with the motion, but without giving her great inconvenience. On vaginal examination it was now discovered that the uterus was inverted, the fundus having descended to within an inch or two of the labia; but no unusual discharge or hæmorrhage had taken place since the day of delivery. An attempt was at once made to reduce it with as much force as was considered justifiable, but without success, and the treatment henceforth chiefly consisted in astringent applications to restrain the copious hæmorrhage which took place at almost every menstrual period, rest in the recumbent position, and tonics to support the general strength. The anæmia, debility, and emaciation, however, gradually increased until her death, on the 10th of November, 1851.

Presented by J. Gregory Forbes, Esq.

4726. The fundus of an uterus, inverted and gangrenous after strangulation by a ligature. The cavity formed by the inversion is laid open: it is lined by the peritoneal covering of the uterus. A bristle is passed into one Fallopian tube.

From a woman aged 30. Inversion of the uterus occurred during the separation of the placenta in her first labour. A ligature was applied seven months later to the protruding portion, which had become irreducible; it separated in ten days. The patient recovered, and died thirty-six years later. A full account of the case, by Mr. Windsor, is published in the Trans. Medico-Chirurg. Soc. vol. x. 1819, p. 358. The next specimen shows the condition of the remaining portion of the uterus.

Presented by Thomas Windsor, Esq., 1877.

4727. The remains of the uterus and its appendages from the

same case, as found after the patient's death, thirty-six years after the inverted body of the uterus had been removed. The bladder has been cut away, excepting a small portion showing the orifices of the ureters, into each of which a bristle has been passed, and the commencement of the urethra, into which a curved blue glass-rod has been inserted. The round ligaments hang down in front, and they, together with the remains of the Fallopian tubes, are inserted into a flat disk of cellular tissue joined at the back by a large though short cervix uteri; a green glass-rod is placed in the os. (Vide 'Sequel of a Case of Extirpation of the Uterus,' by John Windsor, Esq., Trans. Med. Chir. Soc. vol. xxxviii. 1855.)

Presented by Thomas Windsor, Esq., 1877.

Rupture of the Uterus and Vagina.

4728. "The lower half of a gravid uterus, which had arrived at the full period of gestation. On the patient accidentally falling, her labour pains came on; and before she could be delivered the uterus burst, and the child's arm made its escape out of the uterus, but did not pierce the peritoneum at the part where it was reflected over the bladder, uterus, and inside of the pelvis" (*Hunterian MS. Catalogue*). There are two distinct lacerations of the uterus, one on the left lateral wall, four inches long and nearly vertical, the other on the right and posterior wall, near the cervix, of the same length, but transverse. Parts of the bladder and rectum are preserved *in situ*, and are healthy; the aperture in the latter appears to have been made after death.

4729. The right half of a gravid uterus, which was lacerated in parturition at the full period of gestation. There are two lacerated apertures in the wall of the uterus, one at the side, nearly three inches in diameter, the other posteriorly, about an inch in diameter, and both low down in the cervix. Blood is effused on the borders and outer surfaces of the lacerations, and there is lymph on the adjacent part of the peritoneum. The os uteri is widely dilated; the bladder is contracted and healthy. *Hunterian.*

4730. Part of an uterus, which was lacerated in parturition at the full time of gestation. The laceration is through the anterior wall, an inch and a half from the os uteri, and just above the part at which the peritoneum is reflected from the posterior wall of the bladder. It is transverse, and between three and four inches in length; its margins are smoothly rounded, as if it had existed for some days before the patient's death. The walls of the uterus, also, are contracted, and its great veins are empty and collapsed.

The child was found in the cavity of the abdomen.

Hunterian.

4731. A portion of the posterior wall of an uterus, on the outer surface of which is a large, irregular laceration, extending only through the peritoneal coat, and into some large veins. The course of these veins may be traced by the bristles, which are passed into their ruptured ends, and out at the cut edges of the uterine wall.

From a very fat lady, 29 years of age, who died at the full period of her first gestation. Parturition-pains had commenced, she became increasingly faint and blanched, and died in sixteen hours. The peritoneal cavity was found almost full of coagulated blood, with scarcely any serum. The only source of hæmorrhage discovered was the laceration on the inferior posterior part of the uterus seen in the preparation. Air introduced into the large veins of the uterus freely escaped at the opening. The fœtus was fully developed; the membranes had not been ruptured.

Presented by John Hilton, Esq.

Fistulous Communications between the Vagina, Bladder, and Intestines following Labour.

4732. A portion of small intestine which was pulled through a rent in the vagina.

The patient was a woman 23 years old. When pregnant with her seventh child, in the third or fourth month of gestation, symptoms threatening miscarriage occurred. A person called-in to attend her passed his hand through the upper wall of the vagina, and pulled out nineteen and a half feet of small intestine, tearing it from the mesentery, and nearly detaching it from the

rest of the canal. The patient survived the injury seventeen days. The case is further described in the 'Lancet,' August 24, 1844, p. 678.

Presented by Henry Mitchell, Esq.

4733. An uterus, with the vagina, external organs, and bladder. There is an irregular aperture of communication, nearly two inches in diameter, between the vagina and bladder, through their adjacent walls. This aperture was the consequence of ulceration following extensive injury of the parts in parturition. In the subsequent contraction and adhesion of the parts, the walls of the bladder, which formed the borders of the aperture, appear to have been drawn backwards, so that the ureters (indicated by bristles) now open on the upper wall of the vagina, one on each side of the laceration. The remaining part of the cavity of the bladder is healthy, but closely contracted. The interior of the vagina is ulcerated and incrusted with lymph and calcareous matter. The uterus, ovaries, and external organs are healthy. *Hunterian.*

4734. A bladder with the internal organs of generation. The greater part of the posterior wall of the vagina has been removed, to show an oval aperture in the anterior wall, half an inch in horizontal measurement, and opening into the bladder close to the orifice of the left ureter, into which a bristle has been inserted. This could be passed for only half an inch up the ureter, that tube having become accidentally obliterated by a suture in an operation performed to close the fistula. A green glass-rod has been passed into the left ureter above its occluded portion, and another rod of the same colour into the right ureter, showing it to open into the uppermost part of the wall of the vagina. No trace of its vesical orifice could be found.

From a woman who died of uræmia ten days after an operation, by a foreign surgeon, for cure of the fistula. The specimen is figured and described in a paper by the donor "On Operations for the Cure of Vaginal Fistulæ," St. Thomas's Hospital Reports, New Series, vol. i. p. 310.

Presented by Sir T. Spencer Wells, 1880.

4735. An uterus and vagina, with parts of the bladder and rectum. About an inch from the orifices of the vagina and rectum there is an oval aperture of communication between the two canals. The aperture is nearly an inch in diameter, and has smoothly rounded borders, with numerous prominent folds of the mucous membrane around it. All the other parts are healthy.

From a middle-aged woman. The opening was consequent on tedious and mismanaged parturition. She continued for several months afterwards to pass the greater part of the fæces through the vagina.

From the Museum of Robert Liston, Esq.

4736. A vertical median section of the female pelvic organs without the bladder. The cervical part of the uterus has sloughed away, and the vaginal canal is continued by an irregular opening into Douglas' pouch, in which lies a loop of ileum that communicates by an ulcerated aperture with the vagina. A brown glass-rod is passed from the bowel into the vagina. An aperture, about half an inch in diameter, is also seen between the rectum and vagina. The fistulæ occurred after puerperal metritis. (MS. Notes, vol. i. p. 259.) *Presented by Dr. Thurnam*, 1871.

4737. An uterus, with parts of the rectum, vagina, and bladder, exhibiting the effects of injuries received in parturition forty-one years before death.

The following description of the appearances found in the first examination of the parts was probably written by Mr. Hunter. It is included in a "Case of Laborious Parturition, with the Consequences," by M. Wilkinson, Surgeon, Sunderland; in the 'Memoirs of the Medical Society of London,' vol. iii. p. 480, 1792:—

"A communication was formed between the rectum and bladder, sufficient to allow my thumb to pass. The fore part of the vagina and posterior surface of the bladder just above the opening of the ureters, as also the whole of the urethra, were gone, and the remaining part of the anterior surface of the vagina adhered across the os tincæ to the posterior surface, so that the os tincæ was wholly obliterated, and, on introducing the finger into the vagina, it was conducted forwards to the fundus of the bladder, which was pretty perfect."

The patient was 32 years old, and had a small pelvis. In labour with her first child she passed no urine for two days. The child's head was opened, and the delivery effected with long-continued and great violence. Sloughing followed, and she suffered greatly for six weeks. The vagina protruded, and she passed her fæces through it; but she lived forty-one years after the injury.

Hunterian.

Expulsion of the Fœtus through the Rectum.

4738. "A child, which was expelled by the rectum similar to a natural labour, 1792" (*Hunterian MS. Catalogue*). The tissues are softened, and many of them appear to have been putrid.

The full period of gestation had been arrived-at; but nothing is known of the circumstances in which the child passed into the intestine.

Thrombosis of the Uterine Veins.

4738 A. The right half of an uterus, with its appendages, from a patient who died a fortnight after delivery complicated by placenta prævia. The sinuses in the uterine walls are dilated, especially towards the cervix, and, when recent, they were filled with pus and clots. Two green rods are placed in the right ovarian vein, which is laid open to show the dilatation of its cavity, which contains friable blood-clot. Between the Fallopian tube and the ovary is a small solid swelling opened anteriorly, and kept open by a black glass-rod. It consists of a mass of plugged veins between the folds of the broad ligament.

From a woman aged 34. There was but little hæmorrhage, the os externum having been dilated, and the child was born alive. The patient's temperature rose at once, and rigors took place in the second week, followed in eight days by death, preceded by very high temperature and "typhoid" symptoms. The upper three fifths of the uterine cavity were covered with a thick greenish-grey deposit, consisting of decidua mixed with products of low inflammation; the lower fifth was lined with soft but friable clot. (See MS. Notes, vol. iii. p. 204.)

Presented by Dr. F. H. Champneys, 1882.

Series LIX. DISEASES OF THE BREAST.

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Hypertrophy.

4739. A mammary gland enlarged to one foot in diameter. Except in its increased size and in the corresponding size of the blood-vessels, which have been injected, there is no apparent change from the normal condition. The gland after removal weighed 13 pounds. On microscopical examination the normal glandular structure was found to be mixed with a great increase of fibrous tissue.

From a girl aged 19. Both breasts had been enlarging for a year and a half, when this specimen was removed. The opposite breast was amputated three months subsequently.

Presented by Sir William Fergusson, 1865.

Inflammation and its Effects.

4740. The udder of a Sheep enlarged and solidified by inflammation. In the recent state the colour of the section was a mottled purple, the darker parts due to streakings by congested blood-vessels and to ecchymoses, the lighter to the intermingling of some opaque yellow material not quite caseous in appearance, and not quite like fat. The section gave a greasy stain to the knife, and under the microscope there was much fatty matter in the cells and tissue.

The disease appears to be due to distension of the ducts of the gland with milk, which undergoes solidifying and fatty transformation, and leads to inflammation of the udder.

It is a well-recognized disease in Sheep; is very acute and proves fatal. (MS. Notes, vol. iii. p. 34.)

Presented by Jonathan Hutchinson, Esq., 1877.

Obstruction and Dilatation of the Ducts.

4741. Part of a breast, exhibiting several branches of lactiferous ducts dilated and filled with coagulated milk, and large arteries running tortuously about them.

From the Museum of Sir A. P. Cooper.

4742. One of the lactiferous ducts of a woman 85 years old, the main branches of which were distended to their present large size by mucus.

From the Museum of Sir A. P. Cooper.

4743. Part of the breast of an old woman, exhibiting the greater portion of the large lactiferous ducts filled with a pale, solid, soft substance, described as "sebaceous matter."

From the Museum of Sir A. P. Cooper.

4744. "Section of a tumour in the breast, removed by Mr. Morgan, in Guy's, in which the lactiferous tubes were

filled with a deposit from chronic inflammation, which succeeded lactation, and continued for some years, but had suddenly increased before the operation." (*Sir A. Cooper's MS. Catalogue.*)

4745. A thin section of the same breast.

From the Museum of Sir A. P. Cooper.

4746. Another similar section of the same. The appearances of all the sections indicate that, in a circumscribed portion of the mammary gland, there has been a dilatation of the lactiferous ducts with a nearly uniform consolidation and hardening of the tissue between them. All the specimens exhibit on one side the open orifices of transversely divided ducts, and the channels of some divided longitudinally and emptied of their contents; and, on the other side, the ducts similarly enlarged, but filled with a firm substance distending them in the form of sacculi, or varicose vessels. The texture of the walls of the tubes appears thin and healthy.

From the Museum of Sir A. P. Cooper.

4747. Section of a breast, similarly diseased; with the distended ducts emptied and exposing large orifices on the surface of the section. The indurated substance, in which the dilated ducts lie imbedded, in this, as in the preceding specimen, is exactly circumscribed, so that it has all the external appearance of a tumour. *From the Museum of Sir A. P. Cooper.*

4747 A. A thin section of a "scirrhous breast" dried, and exhibiting deposits of earthy matter in small portions of the lactiferous ducts. *From the Museum of Sir A. P. Cooper.*

4747 B. A thin dried section of a "scirrhous breast," exhibiting a more extensive deposit of earthy matter in the branches of the lactiferous tubes.

From the Museum of Sir A. P. Cooper.

4747 c. A thin section of a diseased breast, of which Sir A. Cooper says, in a description of a drawing of it, "It is a preparation of a scirrhous tumour* of the breast, showing bodies in it which appear like bone, but which Dr. Prout analyzed and found to be animal matter, partly oily, united with the phosphate and carbonate of lime. They are contained in the lactiferous tubes, of which sections have been made in preparing this specimen."

From the Museum of Sir A. P. Cooper.

Simple Cysts.

4748. Part of a breast, in which there are several cysts, probably formed by dilatation and thickening of the walls of obstructed lactiferous ducts. They are disposed irregularly in the mammary gland; are round and oval in form, and measure from a quarter of an inch to two inches in diameter; all of them have well-defined membranous walls, from half a line to a line in thickness, with smooth and polished internal surfaces.

From a lady 47 years old. She had had children, and had suckled them; and she menstruated regularly both before and after the removal of the disease. The tumour existed a year before its removal, and grew rapidly without pain; it was hard, but movable. Nine years after the operation the patient was quite well.

From the Museum of Sir A. P. Cooper.

4749. A similar preparation, with fewer, and for the most part smaller, cysts, probably formed in the process of involution or senile atrophy of the breast.

From the Museum of Sir A. P. Cooper.

* Sir Astley Cooper, in his descriptions of his preparations and drawings, did not limit this term to the hard cancerous tumours, but appears to have employed it for any firm tumour of the breast. The specimens just described are certainly not cancerous; having been dried, it is impossible now to say what they are, but it is most probable that they are circumscribed portions of indurated mammary gland, in which calcareous matter has been deposited in the diseased ducts or in the indurated tissue.

4750. A similar preparation. Bristles are passed for a short distance into the ducts in the nipple ; none of them reach the cysts. The substance of the gland around appears uniformly indurated.

From the Museum of Sir A. P. Cooper.

4751. A portion of a breast, showing fibro-cystic disease. The section shows many small cysts with intervening fibrous material. The cysts are of different sizes, mostly very small, but some as large as a walnut. Their lining membrane is smooth, and they contain a squamous form of epithelium in a state of fatty degeneration. No duct could be traced to them.

Microscopic sections showed an immense increase of fibrous tissue. The gland-tubules are few, and separated from each other by large tracts of the new formation. The fibrous material, which is white and wavy, is seen to surround the ducts concentrically, forming a very thick wall.

For drawing and fuller notes see MS. Notes, vol. i. p. 315.

Presented by Sir William Fergusson, 1872.

4752. Part of a breast, in which a very thin-walled, membranous cyst is imbedded in the substance of the mammary gland below the nipple. The cyst is of a somewhat oval form, with a smooth and polished inner surface and well-defined walls, with slightly projecting incomplete partitions; it measures three and a half inches in its chief diameter.

From the Museum of Sir A. P. Cooper.

4753. Portion of a breast, in which there is a cyst of irregular form, and about an inch and a half in diameter, just below and by the side of the nipple. The cyst has distinct thin membranous walls, and is closely connected with the tissues around it ; the greater part of its inner surface is smooth and polished, but on one spot it appears thinly covered with lymph. The nipple is shrunken and deeply retracted, but not directly towards the cyst.

Presented by Sir William Blizard.

4754. Several small cysts, from a breast. They are spherical or oval, and measure from one to three lines in diameter. They have thin, transparent, membranous walls ; are smooth internally ; and are filled with soft pearly-white substance like spermaceti, deposited in grains and little flakes. The specimen was described as "pearly hydatid."

This specimen is probably that described and figured in Sir A. P. Cooper's book 'On Diseases of the Breast,' No. 44, pls. 3 and 4.

From the Museum of Sir A. P. Cooper.

4755. A portion of a breast, with a cyst, from which the contents have been removed, and lie loose in the bottle ; other cysts are shown at the back of the preparation.

From the Museum of Sir A. P. Cooper.

4756. A breast containing a cyst over one inch in diameter. There is a small amount of hard growth round the nipple, and one or two bands of similar material are felt on the wall of the cyst. The contents of the cyst were blood, cholesterine, and granular matter. No cancer-cells were found in it.

The patient was well three years after the operation. (MS. Notes, vol. ii. p. 158.)

Presented by John Birkett, Esq., 1874.

Proliferous Cysts : Sero-cystic Disease.

4757. Section of a breast, in which there is a cyst exactly like the larger cysts described in several of the preceding specimens, but having a low, broad-based, lobulated, soft growth, cauliflower-like, or like a small group of close-set warts, attached to a large portion of its inner wall, and projecting into its cavity. The cyst is situated just beneath the skin, half an inch from the nipple, but close to the base of the chief lactiferous ducts. Its lining membrane has a light rusty colour, as if it had contained a bloody fluid. The nipple is retracted. *From the Museum of Sir A. P. Cooper.*

4758. Another section of the same breast, exhibiting the remainder of the same cyst, and around it the sections of several others of the same kind, but much smaller. One of these smaller cysts is empty, the others appear to be filled by growths from their walls.

From the Museum of Sir A. P. Cooper.

4759. A breast with several large cysts in it, one of them situated immediately below the retracted and shrivelled nipple. Lobulated solid growths of rounded form are seen at the bottom of the cysts. A glass rod is placed in a wide channel, probably a dilated lactiferous duct, which courses along the septum between two of the cysts, and opens into one of them. The intra-cystic growths are papillary on the surface, but in their interior small epithelial cells are massed together without any regular arrangement, or as linings of tubular or alveolar spaces.

From a woman aged 35. Ten years before the operation she had noticed a small swelling on the outer side of her right breast, and a yellowish, sometimes bloody, discharge from the nipple. The lump continued to increase painlessly till two years before the operation, when the discharge ceased and pain began. The cysts contained a dark reddish-brown fluid. (See MS. Notes, vol. i. p. 190.)

Presented by Sir William Fergusson, 1869.

4760. Two cysts, removed from a breast. Each is single, thin-walled, and contains small lobulated intra-cystic growths from its wall. Both contained a brownish fluid and cholesterine. They are quite distinct, though held together by fat and connective tissue.

From a woman aged 51. A tumour had been removed from the same breast four years previously, and the present growth was noticed of small size soon after the wound of that operation had healed. It was freely movable, and not adherent to the old cicatrix. The patient became insane soon after the operation, and was discharged in that condition. (See MS. Notes, vol. i. p. 236.)

Presented by Edward Cock, Esq., 1870.

4761. Part of a mammary gland, in which a cyst has been

formed just below the nipple. The cyst, now collapsed, is about two inches in diameter. It has distinct walls, about a quarter of a line in thickness; it is polished, though wrinkled, internally, and is closely united externally to the adjacent substance of the gland. From a small portion of the internal surface of the cyst there has grown an irregular soft fungous mass, which is attached to the cyst by two narrow bases, and projects far into its cavity. The surrounding mammary gland appears healthy. The cyst is said to have contained a coffee-like fluid.

Removed from a woman 30 years old. Bloody serous fluid had been discharged from the nipple for several months before the operation.

From the Museum of Sir A. P. Cooper.

4762. Part of a breast, in which a cyst, like those last described, is situated just below the nipple. The skin around the nipple has been raised and reflected, and the surface of the section just beneath it exhibits many small apertures, considered to be the orifices of lactiferous ducts filled with some soft yellowish substance. One half of the cyst is nearly filled with a round soft growth from its walls.

From the Museum of Sir A. P. Cooper.

4763. Section of a breast, in which a cyst, of the same kind as those last described, is nearly filled with several similar closely packed growths from parts of its walls. The attachments of most of the growths are broad, and extend over a considerable portion of the surface of the cyst; in other parts, though the surfaces of the cyst and the growths are very near each other, the line of separation between them may be traced. The substance of the growths is soft, obscurely fibrous, and vascular; numerous blood-vessels in them have been injected from those of the surrounding parts and the walls of the cyst. Besides this chief cyst, there are, adjacent to it (at the back of the preparation), several smaller cysts of the same kind, with similar growths from

their walls filling, more or less completely, their cavities. The nipple and the skin around it are healthy.

From the Museum of Sir A. P. Cooper.

4764. Another portion of the same breast, exhibiting the other half of the large cyst and the morbid growths from its walls. The broad base, and the irregular lobular form of the largest of the growths, are here more distinctly shown.

The patient was an unmarried lady, 48 years old. The tumour was punctured a year before its removal, and serous fluid, with "fungous matter," was discharged. After this it continued to discharge a bloody serum, and granulations protruded from the aperture. At each period of menstruation the breast became painful and swollen, and the discharge was increased in quantity, and more bloody; at other times there was no pain. The disease did not return after removal.

From the Museum of Sir A. P. Cooper.

4765. A portion of the breast described in Vol. i. No. 283, exhibiting parts of several small cysts, like those in the specimens last described, and filled with similar growths. A bristle is passed from the nipple into a dilated lactiferous tube.

From the Museum of Sir A. P. Cooper.

4766. A breast, with several large cysts, all nearly filled with finely lobulated intra-cystic growths. They also contained a very small quantity of serum. The atrophied gland, with the nipple, have been dissected from a solid lobulated tumour occupying the centre of the mass.

Microscopically, the central tumour appeared to be a fibro-adenoma. The intra-cystic growths consisted of loose connective tissue, containing many round cells; their lower portions contained a little gland-tissue.

From a single woman, aged 39. She noticed a small hardness in the breast when 18 years old, which slowly increased. It was painless till shortly before the operation. (See MS. Notes, vol. i. p. 224.)

Presented by Dr. Masfen, 1869.

4767. The other section of the breast described in Vol. i. p. 105.

No. 282. It exhibits one large and several smaller cysts, like those already described, and all containing soft and lobulated growths, which nearly fill their cavities. Some of these growths have been turned out of the cavities of the cysts to display the narrow pedicles by which they are attached to the walls; others appear to have broad bases. They are all composed of thick clusters of small, flattened, leaf-like, pedunculated, and vascular processes, some of which hang loosely, and some are so closely set that they form nearly solid masses. The lactiferous ducts appear generally dilated.

From the Museum of Sir A. P. Cooper.

4768. Sections of part of a breast and of a tumour immediately below the nipple. The section has been made through the axis of the nipple, and bristles are placed in the lactiferous ducts. The tumour is about three quarters of an inch in diameter, and appears to consist of a distinct, smooth-walled, membranous cyst, filled with a lobulated growth, like those already shown, but paler and much firmer, and very like the solid fibro-adenomatous tumours of the breast. The texture of the surrounding mammary gland appears quite healthy.

Some history of the case is given in Sir E. Home's 'Observations on Cancer' (London, 1805), case v. p. 45. The tumour was very movable. The first sign of the disease was occasional bleeding from the nipple; some time after this the tumour was first felt.

Hunterian.

4769. A portion of a left breast, removed by operation. It contains a cyst, with lobulated growths from its internal surface, which project through an opening in the skin.

From a widow, aged 46. Nineteen years before the operation she found a small tumour just above the left nipple. It was not attended by any pain or inconvenience, and she nursed several children with the breast. Six months before the operation an abscess formed near the tumour, and a large quantity of pus was let-out. A sinus remained, which constantly exuded serum tinged with blood.

Presented by Edward Cock, Esq., 1866.

Fibro-Adenoma and Fibroma: Chronic Mammary Tumour.

4770. A left mammary gland, with a small lobulated fibro-adenoma (mammary tumour), half an inch in diameter, lying upon its anterior surface, about one inch and a half from the nipple. The tumour is connected only by a narrow pedicle to the gland; it was encapsuled, and freely movable. Beneath it, and nearer to the periphery, is a retention-cyst, about one inch in diameter. The tissues between the tumour and the nipple are dense and indurated. Lying close to the border of the gland, on the same side, is one half of a tumour of the same dimensions, smooth on the surface, and attached to the gland only by loose connective tissue.

The tumour lying near the border of the gland was composed of dense fibrous tissue, containing scanty but well-developed gland-tissue. There were long branched ducts, imperfectly lined with degenerating epithelium and acini branching-off from smaller tubules. Some of the ducts were compressed, others dilated.

From a woman, middle-aged, who had also a fibro-adenoma on the front of her right breast, near the nipple. (See a lecture by the donor, Brit. Med. Journ. vol. i. 1883, p. 298.)

Presented by Frederic S. Eve, Esq., 1883.

4771. A group of fibro-adenomata. Their surfaces are lobulated, smooth, and encapsuled. Their sections have the appearance of gland-tissue, are divided into lobules by bands of fibrous tissue, and contain small round cavities and elongated curved spaces.

Removed from the breast of a woman aged 37. They had been six months growing.

Presented by John Hilton, Esq.

4772. Sections of a small, round, smooth tumour. It exhibits the same general characters of structure as the preceding, and is invested with a thin capsule of fibro-cellular tissue. There are appearances of several small cavities on its cut surface. *From the Museum of Sir A. P. Cooper.*

4773. Part of a breast, removed by operation, in which there are

several small round tumours, like the preceding, closely clustered together. The sections of some of them present a granulated appearance, as if small grains of a firmer and yellower substance were imbedded in them.

Presented by Sir Everard Home.

4774. A solid, fibrous, and mammary-glandular tumour. A small yellowish spot near the centre is probably due to a puncture made in the tumour a few days before its excision.

It grew amongst the axillary lobules of the right mammary gland of a healthy woman. It commenced when the patient was 25 years of age, whilst nursing her first child, more than four years previous to its excision. (MS. Notes, vol. i. p. 265.)

Presented by John Birkett, Esq., 1871.

4775. A breast, with a large, deeply lobulated, "chronic mammary" tumour. The more superficial portion has begun to slough. Attached to the deeper surface is a large flattened lobule, which was situated beneath the pectoralis major, between that muscle and the pectoralis minor; it was attached to the main portion by a narrow pedicle. The nipple is at the lower part of the preparation.

The tumour was of fourteen years' duration, and was removed from a patient in St. Bartholomew's Hospital.

Presented by Sir James Paget, 1868.

4775 A. A tumour, an inch in diameter and of fibrous appearance, from the surface of a mammary gland.

Examination with the microscope showed fibrous tissue and no trace of gland-tissue.

From a woman aged 44.

Presented by Frederic S. Eve, Esq., 1885.

4776. A fibrous tumour of the breast, distinctly encapsuled. It is composed of delicate fibrous tissue, containing granules and very few nuclei.

From a lady aged 53; married, and with several children.

She had been a widow several years, and was of nervous habit, but in good health. She had noticed a swelling in the right breast for eighteen months. The entire breast was removed, and six years later the patient was in good health and free from any sign of recurrence of the tumour. (For drawing and notes, see MS. Notes, vol. ii. p. 112.)

Presented by John Birkett, Esq., 1874.

4776 A. A fibro-adenoma of a breast, with a cyst an inch in diameter near one of its surfaces. The tumour is firm, fibrous, and shows on section lacunæ, some of which contain small proliferous growths.

Microscopically it was composed of fibrous tissue, containing round and elongated nuclei, and traversed by gland-tubules lined with columnar epithelium.

From a Jewess, aged 21. It had been growing eighteen months.

Presented by Christopher Heath, Esq., 1885.

Sarcoma and Myxo-sarcoma.

4777. A dense lobulated tumour, from the breast. Its section is gland-like and divided into lobules.

It is composed of a fibrous matrix, with oval and spindle-shaped nuclei.

From a married woman, aged 36. The tumour was first noticed two years after her first pregnancy. It was situated chiefly under the breast. It was painless. (See MS. Notes, vol. i. p. 208.)

Presented by John Hilton, Esq., 1869.

4777 A. A mammary tumour, chiefly made up of cysts more or less completely filled with small, finely papillary, proliferous growths. Three of the cysts are nearly an inch in diameter. At the centre of the tumour is a surface devoid of cysts, but containing circumscribed lobes of a lighter substance than the remainder of the tumour.

The papillary growths were composed of fascicular fibrous tissue, enclosing rods of spheroidal epithelium and tubules lined with similar cells. The lighter solid nodules described showed

mucous connective tissue. Many of the newly formed tubules were dilated.

From a woman aged 21.

Presented by Charles Stewart, Esq., 1885.

4778. The other half of the breast, occupied by a cysto-sarcoma, described in Vol. i. p. 105, No. 284. The general mass has an oval outline, and measures about four inches in width and two and a half in depth. The greater part of it is composed of cysts closely packed together, and completely filled with lobed and nodulated growths of a pale, homogeneous, and in some parts nearly transparent substance, of various firmness in different parts, and apparently the less vascular the more its firmness. The cysts are of various sizes, and irregularly partitioned. One of them measures nearly two inches in one diameter; others are half an inch, or less, in diameter. In the largest of them the structure of the contained growth has been displayed by separating the parts, or lobes, of which it is composed, showing that it consists of variously lobulated and branched, or leaf-like flattened, portions, attached together and to the walls of the cyst by narrow pedicles, and very closely compacted. In many of the cysts, though they are intimately united with one another, the line of boundary between the wall of the cyst and the surface of the growth contained within and filling it is evident; but in some parts of the tumour the distinction is less apparent.

Microscopically the tumour consisted of mixed sarcoma-tissue containing tubules of gland-tissue.

From the Museum of Sir A. P. Cooper.

4779. Part of a breast, in which there appear to have been several distinct cysts of the same kind as those last described, and all so filled with large and firm lobulated growths from their internal surfaces that they formed one nearly solid tumour. The growths, many of which have been partly separated, are firmer and more closely compacted than those in the preceding specimen; and it is

only in a few places, at the upper and lower parts of the specimen, that the spaces between them and the walls of the cysts containing them can be traced.

From the Museum of Sir A. P. Cooper.

4780. Sections of a similar tumour, removed from a woman's breast. *Presented by Sir Everard Home.*

4780 A. Half of an adeno-fibro-sarcoma from the mammary gland. The section shows a soft connective tissue, with irregular glandular spaces scattered throughout it; many of these are dilated into larger spaces, chiefly of a semilunar or curved form on section, and all containing solid ingrowths. Most of the cysts are situated near the periphery of the tumour. Its surface is irregularly nodulated, and was surrounded by a definite capsule, from which it was readily separated.

Microscopically the tumour consisted of connective tissue, containing, in some places, many spindle-shaped nuclei, and enclosing irregular and tubular spaces or loculi lined by three or four layers of minute glandular epithelial cells.

The tumour was removed from a woman aged 42 years. It had been observed for five years, but had only caused pain and discomfort for about a year.

Presented by Frederic S. Eve, Esq., 1882.

4780 B. One half of a tumour from a breast, nodulated on its surface, and having a firm whitish section divided by bands of connective tissue into large separate lobules. Upon the surface of the section are a few irregular spaces, containing proliferous growths, and many minute apertures.

Microscopically it consisted of spindle-cells, coalescent in parts and forming an immature connective tissue, within which many tubules and columns of spheroidal and columnar epithelium were imbedded (adeno-sarcoma).

The tumour was removed from an unmarried woman, aged 57, and had been observed for six years. The axillary glands were not enlarged. (See MS. Notes, vol. iii. p. 192.)

Presented by J. Knowsley Thornton, Esq., 1882.

4780 c. An adeno-sarcoma of the breast. Its surface is smooth and encapsuled; its section shows scattered fibrous bands, with a softer homogeneous tissue intervening, in which are elongated and triradiate cavities, representing divided gland-tubules; into some of these, rounded and papillary proliferous growths project.

Presented by Thomas Bryant, Esq., 1875.

4781. A breast, showing a large, soft, white, solid growth, and very vascular, lobulated masses projecting into a cyst. The nipple is seen at the lower part of the preparation, and its ducts run very close to but not into the large cyst. A blue rod is passed through a sinus which led into the interior of the cyst from the skin.

The microscopical features vary in different parts of the tumour: the softer white part to the right of the specimen consists of round cells in a connective-tissue stroma; the structure of the intra-cystic growths is rather that of myxoma. There is also wavy-looking fibrous tissue.

From a married lady, without family. The growth was discovered accidentally about three years before its removal. There was no glandular enlargement. The patient was stout and of flaccid habit. She died nine months after the operation with a local recurrence of the disease and thoracic complications.

For fuller notes and drawing, see MS. Notes, vol. ii. p. 32.

Presented by John Birkett, Esq., 1873.

4782. A large cystic myxo-sarcoma of the breast. The stroma is soft, homogeneous, and glistening, and contains numerous rounded and elongated cavities scattered generally throughout it; many of them contain gelatinous intra-cystic growths. In some parts slightly dilated ducts and acini may be made out, of which the walls are formed by a thick layer of mucous tissue; it is, probably, by the further dilatation of these that the cysts are formed.

From a woman aged 58; married, and with one child 17 years old. She had good health till two years before the operation, when she noticed a lump in the left breast. It gradually increased, and latterly was accompanied by pain. The cysts contained large quantities of squamous epithelium. The stroma consisted of round and spindle-cells intermixed, lying in a soft mucous connective tissue. The case is recorded in the 'Medical Times

and Gazette,' 1871, vol. ii. p. 185. For drawings of the microscopical appearances, see also MS. Notes, vol. i. p. 301.

Presented by Dr. Newman, 1871.

4782 A. A large tumour of the breast, which, in the arrangement of its component parts, resembles the foregoing specimen, but is more solid, and contains more minute cysts. It weighed 12 lb. The skin is ulcerated.

Microscopically the tumour consisted of mucous connective tissue.

From a lady of middle age. It had been growing five years. The skin began to ulcerate rapidly ten days before its removal. A pint and a half of serous fluid escaped from a large cyst during the operation. (See MS. Notes, vol. i. p. 303.)

Presented by Sir William Fergusson, 1871.

4782 B. A section through a breast and a myxo-sarcoma lying beneath it. The tumour consists of a soft, white, connective tissue; and its largely and minutely lobulated surface, at the lower part of the specimen, appears to have projected into a large cyst. The mammary gland, separated from the tumour by a capsule, is small and condensed, and contains several small cysts. *Presented by Sir James Paget*, 1880.

4783. A myxoma of the breast. Both externally and on section the tumour presents a lobular structure; layers of fibrous-looking tissue traverse its substance in all directions. The central lobes appear firmer than those at the circumference, and these have a greyish, glistening, colloid appearance. The mammary gland, separate from the tumour, is at the lower part of the specimen.

On microscopical examination long spindle-cells could be detected, ramifying in a mucous connective tissue.

From a healthy-looking woman, aged 57. The tumour had been noticed four and a half years, and had rapidly increased in as many months. It was removed, and quickly recurred near or in the cicatrix. Although the recurrent growth had the same appearances to the eye, it was made-up solely of spindle-cells. The patient died with recurrent disease. No secondary growths existed, and the axillary glands were quite normal. For full

history and drawings, see Path. Soc. Trans. 1872, and MS. Notes, vol. i. p. 391.

Presented by J. Cooper Forster, Esq., 1872.

4783 A. A breast, with a large mass of sarcoma protruding from an ulcerated aperture in the integuments. The section of the tumour is soft and semigelatinous with an indistinct fibrous appearance. The substance of a portion of the mammary gland dissected-out is invaded by the morbid growth. The growth contains also many irregular cyst-spaces, into some of which rounded masses of the tumour project.

In microscopic structure the tumour is a myo-sarcoma, consisting chiefly of ill-formed connective tissue, containing a few small columns and cylinders of gland-tissue. The stroma is composed of closely aggregated spindle-cells. (See MS. Notes, vol. iii. p. 175.)

Presented by Timothy Holmes, Esq., 1880.

4784. A spindle-celled sarcoma of the breast. It contains cysts and much colloid material.

The microscopical examination shows a tissue intermediate between the myxomatous and spindle-cell sarcoma-tissue, and containing many variously shaped cell-elements.

From a married but sterile lady, aged 56. She had noticed a lump in the left breast since she was 30. It had increased rapidly during the last year. The entire breast was removed, and five years later the patient was in perfect health, without a sign of recurrence of the tumour.

For full notes, see MS. Notes and drawing, vol. ii. p. 204.

Presented by John Birkett, Esq., 1875.

4785. A large whitish tumour from the breast, composed in great part of fibrous tissue. The lobes of the growth freely project into a large cavity in its centre.

From a married woman, aged 58, with nine children, the youngest 11 years old. The tumour had been noticed two years. The case is fully reported in the Trans. Path. Soc. vol. xxiii. p. 258; see also MS. Notes, vol. i. p. 389.

Presented by J. Cooper Forster, Esq., 1872.

4786. Section of a large tumour, removed from a breast. The substance of the tumour is compact, nearly pure white, and altogether closely resembles that of the white substance of the brain. It consists of several distinct portions, united by thin layers of connective tissue. It appears but little vascular, for, of the injected blood-vessels, scarcely any can be traced beyond the layers of connective tissue uniting the several portions of the tumour. In a few parts small cavities, with polished internal surfaces, are scattered irregularly in the morbid substance. *From the Museum of Sir A. P. Cooper.*

4787. A small, lobulated, pyramidal tumour, which recurred in a breast after the removal of other similar tumours on two different occasions. It is firm and elastic, and has all the appearance of a spindle-celled sarcoma or "recurrent fibroid" tumour.

From a delicate young woman, aged 27. The first growth was removed four years before the present specimen. A recurrence took place eighteen months afterwards, and then the whole breast was removed. The first and second tumours were encapsuled and cystic. The mammary gland itself was healthy.

The case is described in the Trans. Path. Soc. vol. xvi. p. 240, vol. xx. p. 359, vol. xxvii. p. 233, vol. xxxi. p. 272, and vol. xxx. Appendix, p. 24.

Presented by John Gay, Esq., 1869.

4787 A. A spindle-celled sarcoma, of soft consistence and gelatinous appearance on section.

It was removed from the same patient as the preceding, being the seventh recurrence.

Presented by John Gay, Esq., 1882.

4787 B. A similar tumour, semigelatinous and glistening on section, four inches in length, and sloughing on the surface.

It was removed from the axillary region four months after the removal of the preceding specimen (No. 4787 A), which it resembles in appearance and microscopic structure. None of the tumours recurred in the precise situation of their predecessors.

Two other tumours were subsequently removed, one in the same and the next in the following year, preserved in No. 4787 C.

Presented by John Gay, Esq., 1882.

4787 C. Several recurrent growths from the axilla of the same patient. They are pale, soft, and homogeneous on section, and their surfaces are covered by a superficial slough. Some similar growths had completely separated by sloughing, and the separation had so far advanced in those preserved that they were easily removed by the application of a ligature.

Under the microscope these tumours were found to consist of round and small spindle-cells, without intercellular substance. As compared with the preceding growths, this was less highly organized and contained a much larger proportion of round cells.

This was the ninth recurrence of the tumour in the same patient as the preceding specimens. She was now 48 years old, and had been under treatment nineteen years. She died exhausted soon after the last operation.

Presented by John Gay, Esq., 1884.

4788. A recurrent sarcoma springing by a narrow pedicle from the skin over a breast. Its surface is smooth and covered with cuticle; its section is largely lobulated and indistinctly fibrous.

Microscopically it was in great part composed of fibrous tissue.

From a lady aged 61. She had borne a numerous family, and her youngest child was 20 years of age. Soon after the birth of her last child she noticed a swelling in the sternal part of the breast, which became very pendulous. This was removed three years later, and considered to be scirrhous by the surgeon who operated. The growth did not recur in the scar till thirteen years afterwards; it was removed four years after its appearance. The patient died with "failure of the heart's action," but without any external appearance of cancer.

For notes and drawing, see MS. Notes, vol. ii. p. 202.

Presented by John Birkett, Esq., 1875.

4788 A. Section of a sarcoma of the breast, of very large size. It is nearly spherical, and measures about five inches in diameter. The central and greater part of it is composed of a pale, but vascular, firm, and obscurely fibrous substance, very compact, and traversed by undulating and circling fibrous lines, which imperfectly divide it into lobes of various sizes and shapes. At the circumference it presents several large flattened cysts, completely filled with firm

lobulated growths. The texture of these growths is like that of the central solid part of the tumour, only less compact and less distinctly fibrous; and, in the solid part of the tumour, there are linear, curved, and branched spaces marking the position of ducts and acini.

From the Museum of Sir A. P. Cooper.

4789. Section of a breast, and of a large tumour formed beneath, but not in the substance of, the mammary gland. The tumour has an irregular oval form, and measures six inches in one and five in each of its other diameters. It is deeply knobbed on its outer surface, and its cut surface shows numerous long, large, and variously curved bands of fibres partitioning it into round and oval portions, which are very closely held together. The central and greater part of the tumour is firm, opaque-white, tough, traversed by fine fibres; but at and near its circumference it is much softer, glistening, and nearly transparent, almost like firm vitreous humour, pinkish-white (in the recent state), and with hardly any appearance of the fine, wavy, opaque-white fibres which are seen in the central portions. The integuments and all the adjacent tissues are healthy, the tumour being connected to them by only a thin layer of fibro-cellular tissue which invests it, and forms a kind of loose capsule to it. *Presented by Benjamin Travers, Esq.*

4790. Section of a breast, and of part of a tumour, formed in the mammary gland. The texture of the gland is not involved in the tumour, but is pressed aside, and the tumour is invested with a distinct thin capsule of connective tissue. The tumour appears to have been of an irregularly oval form, and between two and three inches in diameter; it is composed of several distinct lobes closely connected together; the structure of all its portions is compact, with traces of fine, wavy, white fibres traversing a homogeneous pale basis; and it has a few small cysts scattered irregularly through its substance. The adjacent tissues are healthy.

The following case, from Sir Everard Home's 'Observations on

Cancer,' London, 1805, p. 41, probably relates to this preparation; and may serve to illustrate Mr. Hunter's opinions respecting the diagnosis between tumours of this kind and cancerous tumours:—

"A lady, 23 years of age, had a tumour in the breast, which was hard to the feel and gave her pain occasionally. It had been noticed for about a year, and gave her a great degree of anxiety. Mr. Hunter was consulted, and gave it as his opinion that the tumour should be extirpated, as the only means of relieving the patient, believing it to be of a scirrhous nature. In compliance with his advice, the operation was performed. Upon examining the tumour afterwards, it was found to be a hard solid tumour, perfectly distinct from the parts which enclosed it, having an investing membrane, to which it had only a slight attachment. He was, therefore, of opinion that this tumour would never have become cancerous."

Hunterian.

4791. A large lobulated tumour, removed, with a portion of the overlying integuments, from the breast. The section of the tumour shows a homogeneous greyish basis, intersected by numerous curved bundles of shining white fibres, as in the ordinary "fibrous tumour." A large deep ulcer in the integument, over the most prominent part of the tumour, leaves exposed a portion of the surface of the growth about the size of a half-crown piece.

From a lady 49 years of age. The tumour had been growing for upwards of five years at the time of excision. The wound healed readily, and the patient lived for several years afterwards, without any return of the disease.

Presented by Sir Stephen L. Hammick.

Cancer of the Breast.

Hard Cancer; Scirrhus.

4792. Section of a breast, and of a large mass of hard cancer in it. The tumour is of irregular shape, knobbed on its outer surface (which is intimately united to all the adjacent tissues), but, on its cut surface, presenting no appearance of being composed of lobes. At the upper part it appears to have extended to the very surface of the skin, projecting there with an uneven superficially knobbed surface. The

whole substance of the tumour appears equally dense, compact, and hard; it has an obscurely fibrous appearance, as if short and fine fibres were irregularly inlaid in a pale and uniform basis. That part of it which lies at the surface, involving the integuments, is more vascular than the rest, and than the surrounding tissues. The nipple is deeply retracted within a fossa of the integuments drawn-in around it: its base is intimately adherent to the tumour. At the back of the preparation some of the tumour is dissected out from the adjacent tissue.

From the Museum of Sir A. P. Cooper.

4793. Section of the skin from a breast, and of a small, round, hard, cancerous tumour, closely adherent to the skin, about an inch from the nipple. The nipple is retracted, and a thin tough band of tissue, connecting its base with the cancerous tumour, is displayed, "to show the cause of the retraction of the nipple" (*Sir A. P. Cooper's MS. Catalogue*).

From the Museum of Sir A. P. Cooper.

4794. Section of a breast, and of a small hard cancerous tumour immediately beneath the deeply retracted nipple. Several round cords, supposed to be thickened lactiferous ducts, have been dissected-out on one side of the tumour. They contained a whitish fluid. *Hunterian.*

4795. A female breast, showing retraction of the nipple with scirrhous cancer. *Presented by John Hilton, Esq.*, 1865.

4796. Another specimen, showing the same condition of the nipple, in section. The breast is exceedingly fat; the scirrhous growth occupies nearly the whole gland, and its margins are, in parts, ill-defined.

Presented by John Hilton, Esq.

4797. Section of a breast, in which a long narrow mass of hard cancer, obscurely fibrous, and with little seed-like masses and minute cysts thinly scattered through it, has been

exposed by dissection of the surrounding substance. The nipple is very deeply retracted, and is hard with cancerous deposit. The skin also, and the areolar tissue of the breast (the ligamenta suspensoria of Sir A. Cooper), are thickened and indurated. From the lower part of the chief cancerous mass a long narrow cord, composed of the lymphatic vessels affected by the disease, extended to the axilla. Part of this cord is preserved.

From the Museum of Sir A. P. Cooper.

4798. Section of a breast, with a tumour, in which "the cancerous suppuration had taken place." The substance of the tumour, which is situated just below the deeply retracted nipple, is soft and broken, from caseous degeneration, so as to present many cavities and slight fissures, with a generally granular and grumous aspect. In its form and intimate connection with the adjacent tissues it is like a hard cancer. *Hunterian.*

4799. Section of a breast, in which there is a large, compact, and hard cancerous tumour. It is nodulated on its outer surface, but on its cut surface has no appearance of being composed of separate lobes. It has a well-defined outline, and is closely attached to both the skin and the great pectoral muscle. Irregularly scattered through a part of the substance of the tumour are several small cavities of various form, and having walls, in some smooth, in others irregular, as if composed of softened cancerous matter. Near some of these small cavities the cancer is more vascular than it is elsewhere; and this is especially the case near its outer subcutaneous surface. The skin over the tumour is contracted, wrinkled, and superficially ulcerated.

From the Museum of Sir A. P. Cooper.

4800. A cancerous breast, injected, showing softening with colloid or with caseous degeneration. The nipple is much retracted. *Presented by John Gay, Esq.*, 1874.

4801. Section of a breast, with a hard and large cancerous (?) tumour in the substance of the mammary gland.

Hunterian.

4802. The left breast of a man, affected with cancer. The tumour is about the size of a small orange, and presented the usual appearances of scirrhous cancer. The skin is adherent to it over its most prominent part, and ulceration has just commenced below the nipple.

From a man aged 65. The growth commenced seven years before its removal. (See MS. Notes, vol. i. p. 6.)

Presented by John Hilton, Esq., 1863.

4803. Half of a scirrhous cancer removed from a man's breast.

From the right breast of a butcher, aged 39. He had noticed a swelling three months, but before this had pain in his right shoulder. The whole tumour was painless, lobulated, freely movable; and there was no glandular enlargement. The patient recovered from the operation. (See MS. Notes, vol. i. p. 31.)

Presented by Alfred Bland, Esq., 1864.

4804. Section of the breast of a man, in which there is a large ulcer, which probably originated in a lens-shaped, hard, cancerous tumour. The outline of the ulcer is nearly circular, but somewhat sinuous; it has a smooth, slightly convex, elevated surface, and some hard nodules at its margin, which are round, slightly elevated, flattened, and depressed at their centres. The ulcerated surface is nearly five inches in diameter, and appears to have been very vascular; the substance immediately below it is soft, but that at a greater depth is compact and hard. The lower surface of the diseased structure adheres to the great pectoral muscle, in which some large and tortuous arteries are injected.

From the Museum of Sir A. P. Cooper.

4805. Part of the integuments of a breast, and of a large hard cancerous tumour, to which they are closely adherent. A great extent of the integuments is superficially ulcerated.

The border of the ulcer is sinuous, but not elevated; its base is irregular, in some parts sloughing, in others appearing to be merely excoriated. The ulceration has extended into the axilla, in which there were several cancerous glands.

From the Museum of George Langstaff, Esq.

4806. Section of a cancerous breast, with part of the subjacent walls of the thorax. The section, besides showing very well the structure of hard cancer, serves to display the deeply retracted nipple, with the borders of the surrounding skin almost united over it, and a superficial ulcer by its side; the invasion of the pectoral muscle by the cancerous tumour; the conversion of a part of the muscle into a substance like that of the cancer; and the intimate adhesion of the whole diseased mass to the surface of the ribs.

From the Museum of George Langstaff, Esq.

4807. Another part of the same breast, exhibiting other ulcers of the integuments and extensive softening of the cancerous mass. *From the Museum of George Langstaff, Esq.*

4808. Section of a breast, with a hard cancerous tumour formed deep beneath the skin. One of the axillary glands, enlarged and indurated, is connected with the breast. The skin over the tumour has been superficially ulcerated, in consequence of the application of "Plunkett's powder"*.

Hunterian.

4809. A scirrhous cancer of the breast.

The section presents the ordinary fibrous appearance of scirrhus, and its nature was confirmed by microscopical examination. It has this peculiarity, however, that it was surrounded by a complete capsule.

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* See Hunter's Lectures, 'Works,' vol. i. p. 625, quoted in vol. i. p. 58, together with some remarks by Mr. Hunter on the action of arsenic as an escharotic, in connection with a case in which a whole breast with a carcinomatous tumour separated after sloughing.

From a married woman, aged 56, who died of cancer of the pylorus (see 2413).

The case is described, and microscopical drawings given, in the 'British and Foreign Medico-Chirurgical Review,' January 1875.

Presented by Charles J. Cullingworth, Esq., 1875.

Soft or Medullary Cancer.

4810. Section of a breast, in which a large, but distinctly circumscribed, oval mass of soft cancer is imbedded in the mammary gland. In the interior of the tumour there are several small oval cysts, some with irregular, others with smoothly polished walls. The adjacent substance of the gland appears healthy.

The patient died of hæmorrhage after the operation.

From the Museum of Sir A. P. Cooper.

4811. A section of a breast, showing, on its anterior wall, several masses of soft cancer, partially encapsuled; behind them is a cyst about four inches in diameter; the interior of its wall was studded with minute cancerous nodules, and its cavity contained brownish fluid.

From a single woman aged 67. The tumour had been growing for eighteen months when it was excised; the patient died three days after the operation. (MS. Notes, vol. ii. p. 40.)

Presented by H. Greenway Howse, Esq., 1873.

4811 A. One half of a medullary cancer, of softish consistence, and white in colour, removed from the axilla of a lady aged 35 years. It was easily detached from the surrounding parts, but the brachial artery ran through it and had to be tied. Both the breast and the skin over it were healthy.

Under the microscope the tumour consists of large alveoli, of nucleated large epithelial cells, bounded by a small amount of connective tissue.

The situation, general characters, and microscopic appearances

of the tumour suggest that it may have originated in an imperfectly developed supernumerary gland or glandule of the mammary gland. (See MS. Notes, vol. iii. p. 188.)

Presented by Jonathan Hutchinson, Esq., 1882.

Colloid Cancer.

4812. A breast affected with colloid cancer, very definitely lobulated, and of jelly-like consistence and colour. A caseous change has gone-on to a large extent near the centre.

Under the microscope it showed a delicate connective tissue forming alveoli, which contained large granulation-like cells, though it yielded no juice on scraping.

From a woman aged 65, married but sterile. Seven years before the operation, a swelling appeared in the right breast close to the nipple. It increased but slowly till six months before the operation. It was removed, and she left the hospital well a month after. (See MS. Notes, vol. ii. p. 42.)

Presented by Thomas Bryant, Esq.

4813. A breast affected with colloid cancer. There is a firm nodule situated close beneath the nipple. The larger part of it is composed of small alveoli of colloid matter; the rest is milky-white.

Under the microscope it is made-up of thick fibrous bands forming an open alveolar mesh-work which encloses large cells undergoing colloid metamorphosis.

From a married woman of delicate health aged 42. The growth was first noticed twelve years before its removal, but it had only grown rapidly the last four months. (See MS. Notes, vol. iii. p. 22.)

Presented by T. Spencer Watson, Esq., 1877.

4814. A colloid cancer of a breast. The disease consists of two or three separate nodules, one much larger than the others. This is composed of colloid substance, which projects, with a flocculent surface, from the section. The other nodules are firmer, and some parts looked like healthy breast-tissue.

From the left breast of an unmarried lady, aged 29, of delicate

health and with profuse catamenia. It was removed, and had not recurred five years later. There was a very small nodule in the other breast. (For drawing and full notes, see MS. Notes, vol. ii. p. 110.)

Presented by John Birkett, Esq., 1874.

4815. A breast with a mass of colloid cancer below and at one side of the nipple. In section the tumour is pale, soft, and contains a considerable amount of gelatinous or colloid material with a few small cysts.

Microscopically the tumour consisted of branched and anastomosing cylinders or rod-shaped masses of epithelium. The epithelial cells were small and irregularly shaped, with large nuclei, the cell-substance around which had no distinct outline, the individual cells being fused together in masses. The alveolar spaces containing the cells were bounded by thin laminæ of homogeneous connective tissue. In parts the epithelium and the connective tissue appeared to be undergoing a hyaline or colloid change. Scattered somewhat abundantly in the connective tissue of the tumour were spherical well-defined bodies having a distinct concentric lamination, the central laminæ being closely approximated.

Removed from a lady, aged 50, who first noticed a tumour in her breast three years before the operation. Its growth, slow at first, was subsequently rapid. She recovered well. Her mother died of cancer of the breast, and her father of cancer of the throat.

Presented by J. Whitaker Hulke, Esq., 1884.

4816. A half of a colloid cancer of the breast. Its section is intersected by narrow bands of fibrous tissue enclosing masses of colloid materials in a wide mesh-work.

The microscope showed that the connective tissue-stroma of the tumour was implicated in the degenerative change and converted into a homogeneous or finely granular substance. Within it, and widely separated by bands of the degenerated connective tissue, were oblong empty spaces, and rounded rods of closely packed and indistinctly defined epithelial nuclei. The colloid substance contained many large granular cells, "corpuscles of Glüge."

From a woman, aged 35, who noticed a tumour four years before the operation.

Presented by W. Scovell Savory, Esq., 1885.

Entozoa in the Breast.

4817. Hydatid cysts from a breast. There are two large cysts containing many daughter-cysts.

The swelling had been noticed twelve months.

Presented by Henry Smith, Esq., 1874.

4818. Part of a breast, in which, close by the mammary gland, and resting on the surface of the great pectoral muscle, is a thick-walled opaque cyst, in which it is probable that an acephalocyst hydatid was contained. The specimen was called "hydatid in the breast."

From the Museum of Sir A. P. Cooper.

Diseases of the Nipple.

Papillary and Fibrous Growths.

4819. "Warty excrescences of the skin growing over a scirrhous tumour of the breast" (*Sir A. Cooper's MS. Catalogue*).

They are another part of those shown in preparation No. 393.

4819 A. A papillary tumour nearly one inch and a half in length, springing from the nipple. Its extremity is pedunculated, smooth, firm, and lobulated; its base is composed of a mass of closely approximated, small, rounded nodules or papillæ with smooth surfaces, and either sessile or pedunculated; they vary from one eighth to one third of an inch or larger.

Microscopically the growth was composed chiefly of overgrown fibrous tissue; but sections taken at its attachment showed an ingrowth of epithelium, in some parts considerable, and consisting of narrow, curved, or anastomosing columns containing a few whorls of cells. The cells forming the columns were small, of uniform size, well-defined, and therefore unlike those of epithelioma.

From a married woman aged 38.

Presented by Jonathan Hutchinson, Esq., 1883.

4819 B. An extremely atrophied breast, only two and a half inches in diameter, of which the nipple is enlarged by a growth of dense fibrous tissue, both within and beneath it, and is pyramidal in shape. The other parts of the gland are of firm fibrous texture, but are less dense than the nipple.

With the microscope, only fibrous tissue and a few compressed, atrophied ducts, and no cancerous growth, could be found.
From an elderly lady.

Presented by Thomas Bryant, Esq., 1883.

Epithelioma.

4820. A breast, with a discoid, thin-edged excrescence projecting from the nipple. It has in parts a warty appearance. Beneath this (though not seen in the specimen) is a soft, almost diffluent, new growth, and deeper still is diseased breast-tissue with dilated ducts.

From a married but sterile lady aged 58. The left nipple enlarged and became painful five or six months before the operation. She recovered from the operation, but died with a local recurrence of the disease. (See MS. Notes, vol. i. p. 425.)

Presented by John Birkett, Esq., 1872.

4821. A warty form of epithelioma of the nipple. A small nodule is seen to occupy or to distend the tissue of the nipple. It is composed of a number of small friable papillæ, growing from a bed which is surrounded by a fold of skin.

The papillæ are formed of scaly epithelium in all stages of growth, and sections of the deeper structures show that the underlying fibrous tissue is infiltrated with cellular elements. The tissue yielded, on scraping, a juice which had the microscopical appearances of "cancer-juice." The cells thus obtained were of all varieties, but chiefly of an epithelial type.

From an unmarried lady 25 years of age. The tumour was of six months' duration, was removed, and recurred. The recurrent tumour was treated by the local application of pernitrate of mercury and entirely disappeared, and five years later the parts were quite free from all appearance of growth. (MS. Notes, vol. ii. p. 189.)

Presented by John Gay, Esq., 1875.

Cancer with "Eczema."

4821 A. A half of a breast, with the skin covering it. At the situation of the nipple is a flat, pigmented, deeply wrinkled surface with a cicatricial and, in places, an excoriated appearance; it is two inches in diameter, and is sharply marked-off from the surrounding healthy skin. The breast appeared to the naked eye a mass of solid fat, and palpation discovered no trace of a tumour.

Microscopic examination of the skin over the diseased area showed that the epidermis was intact and thickened, but the corium was occupied by a dense mass of exudation-cells. In the tracts of fibro-fatty tissue beneath it were found solid rods and tubules of newly formed epithelium. The epithelium surrounding the larger rods and lining the tubules was columnar.

The breast was removed from an unmarried woman, aged 57, who, for twelve months, had suffered with a superficial affection of the nipple, termed eczema. The axillary glands were not enlarged. (See Trans. Path. Soc. vol. xxxii. p. 221.)

Presented by George Lawson, Esq., 1881.

4821 B. A portion of the skin and subcutaneous tissue covering a breast with the nipple affected with cancer. In the situation of the nipple is a flat, raised growth, more prominent at the upper part, with an excoriated, granular, or minutely papillary surface. It is surrounded by an area of excoriated skin, which in the recent state was bright red, for the most part moist and glistening like eczema. Everywhere the margin of the disease was sharply marked-off from the healthy skin. The whole mamma on the outer side of the sore was fuller, harder, and more resisting than the rest of the gland. The axillary glands on this side were enlarged and hard.

Microscopic examination showed that the diseased skin was completely denuded of epidermis, and its free surface was formed by a connective-tissue framework filled with cancerous epithelium. The indurated mammary tissue was composed, at its centre, of rounded alveoli filled with cells, and having, in many instances, a lining of columnar epithelium, a circumstance suggesting that the new growth had originated in the epithelium of the mammary ducts. The periphery of the growth consisted of dense fibrous tissue.

The specimen was removed from a single woman, aged 49, who

was attacked, six years before, with eczema of the nipple, apparently resulting from slight injury by a needle. In six weeks after this event the nipple became raw, and the sore gradually spread, the nipple being destroyed in two years. (See Trans. Path. Soc. vol. xxxii. p. 218.)

Presented by Henry Morris, Esq., 1881.

Diseases of the Blood-vessels of the Breast.

4822. "Artery of the nipple ossified" (*Sir A. Cooper's MS. Catalogue*). A portion of the artery, between five and six inches long, has thin plates and rings of earthy matter in its walls. *From the Museum of Sir A. P. Cooper.*

4823. A similar preparation.

From the Museum of Sir A. P. Cooper.

Other specimens of Diseases of the Breast may be found by reference to the Series I. of General Pathology.

Series LX. ANATOMY OF STUMPS AFTER AMPUTATION OF LIMBS.

Healthy Stumps: 4824 to 4831.
Adhesions of the Soft Parts to the Cicatrix: 4832, 4833.
Exuberant Granulations on the Bone: 4834.
Atrophy of the Bones: 4835 to 4841.
Stumps with New Bone formed on them: 4842 to 4850.
Necrosis: 4851 to 4874.
Enlargement of the Nerves: 4875 to 4879.
Sarcoma: 4880.

Healthy Stumps.

4824. A scapula, with the stump of an arm, smoothly and roundly cicatrized after amputation at the shoulder-joint. The arm was amputated several years before death; the direction of the axis of the cicatrix is from before backwards, and it is nearer to the inner than to the outer part of the stump. There is no puckering of the skin, and the surface of the cicatrix is smooth and shining.

Presented by Sir William Blizard.

4825. A section of an old stump of a left fore-arm, showing the rounded and somewhat tapering ends of the radius and ulna, together with the muscular and tendinous structures, vessels and nerves thickly covered with fat.

From a woman aged 40. The wound had completely cicatrized.

Presented by Richard Partridge, Esq., 1864.

4826. The stumps of two legs, after amputation. In one of them the cicatrix is almost complete, but the cuticle is not formed on it, and there is some prominence of the ends of both the bones; in the other a part of the healthily granulating surface remains; but in this, in which the

amputation appears to have been performed higher up, the bones do not project.

The patient's feet had sloughed-off after being frozen, and the stumps would not heal; they were therefore both amputated.

Presented by Sir William Blizard.

4827. The stumps of a tibia and fibula, many years after the amputation of the leg near its middle. The ends of both are smooth and diminished in size, and they are united by a thin plate of bone. The tibia is chiefly reduced in size by the removal of the anterior part of its extremity, while new bone has been formed upon the posterior part. Both bones are light and greasy, and their walls are thin.

From the Museum of Robert Liston, Esq.

4828. The outer half of the stump of a right leg amputated by Pirogoff's method. The antero-posterior vertical section shows the union of the os calcis with the tibia and the bearing point of the former.

4829. The inner half of the same stump, showing its tendons and nerves. The skin has been dissected from the deeper structures and is placed at the side.

The patient was a man about 30 years of age. The operation had been performed ten years before his death, and he had been able to walk and run actively with a circular laced boot and cork sole on the stump.

Presented, with the preceding, by Richard Partridge, Esq., 1865.

4830. A half section of a stump after Pirogoff's operation. The os calcis and tibia are completely united, their cancellous tissue blending without any line of demarcation. The upper portion of the shaft of the tibia was broken off in preparation. *Presented by John W. Walsh, Esq.*, 1876.

4831. Section of a stump after amputation by a modification of Chopart's method. The astragalus and os calcis have been

sawn through immediately in front of the ankle-joint. The os calcis is somewhat retracted, and a broad surface of support is formed by that bone and the cut surface of the astragalus.

From a lad of 18. The operation was performed for disease of the tarsal bones two years before death, which was caused by lardaceous viscera and psoas abscess. (MS. Notes, vol. i. p. 256.)

Presented by Richard Partridge, Esq., 1870.

Adhesions of the deeper parts to the Cicatrix.

4832. The stump of a fore-arm, amputated near the wrist. All the muscles and tendons, nerves, and vessels, are fixed at the very ends of the bones, some even passing a little over their margins to be inserted in the tissue of the cicatrix by which they are covered. Two of the large nerves are traced to the end of the stump, and are very slightly enlarged at their extremities.

The wound healed well after the amputation, and the patient suffered no subsequent inconvenience.

From the Museum of George Langstaff, Esq.

4833. A portion of the stump of a thigh, from a person who died, about ten days after amputation, with inflammation of the femoral artery and vein. The sciatic nerve is shown attached near to the granulating surface of the stump by a thin layer of tissue, as if its fasciculi had retracted within its neurilemma. Its end is not enlarged.

Presented by Joseph Swan, Esq.

Exuberant Granulations over the Bone.

4834. The stump of a finger, covered with a mass of exuberant granulations; it was amputated a second time. *Hunterian.*

Atrophy of the Bones.

4835. The upper ends of the tibia and fibula of a leper whose

leg had been amputated. The bones are extremely light and porous, and their extremities are smoothly healed.

Presented by Staff-Surgeon Robert Allen, 1879.

4836. The stump of a tibia, from a case in which it was necessary to amputate so high up that a part of the ligamentum patellæ was cut through. The stump has healed roundly and very smoothly; a complete layer of compact bone covers the sawn surface of the cancellous texture, but the whole of the bone is very light.

Presented by Sir Anthony Carlisle.

4837. The stump of a tibia. The cancellous tissue has been completely removed from its interior, leaving a single large cavity, which opens by a wide orifice at the upper and posterior part of the bone, and by a smaller one at its lower end. Probably both these holes were broken-in after death. *Hunterian.*

4838. The stumps of a tibia and fibula. Both the bones are reduced in size, tapering towards their extremities. A small quantity of new bone is formed on the tibia, but the fibula ends in a sharp point. The articular head of the tibia alone appears to have retained its natural size.

Hunterian.

4839. A similar specimen, except that the fibula is bent inwards at its extremity, and united by bone to the end of the tibia.

Hunterian.

4840. The stump of a fibula, after amputation near the knee-joint, reduced in size, and tapering to its extremity.

Hunterian.

4841. A similar specimen, with some new bone formed around its extremity. *Hunterian.*

Stumps with New Bone deposited on them.

4842. The stump of a femur, the end of which is rounded and covered with porous, light, new bone, chiefly accumulated at its posterior part. *Presented by Sir William Blizard.*

4843. A similar specimen, in which, moreover, the wall of the bone is expanded and porous for some distance above its sawn extremity. *Presented by Sir William Blizard.*

4844. The stumps of a tibia and fibula, after an amputation at the lower part of the leg. The edges of the sawn ends of both bones are rounded, and they are surrounded and united together by light and finely cancellous new bone.
Presented by Sir William Blizard.

4845. The stump of a femur. The end of its medullary cavity is closed with a thin layer of bone ; its margins are smoothly rounded, and just above them new bone has been formed, which projects behind the linea aspera in long and narrow spines. The orifices of the vascular canals are larger than natural in nearly all the shaft. *Hunterian.*

4846. The upper part of a fibula, after amputation. A narrow process of bone, pointed upwards, has grown from its inner margin near its extremity. *Hunterian.*

4847. The stump of an Eagle's humerus, with a knob of new bone on its extremity. *Hunterian.*

4848. The ulna of a Cat, from which the distal end has been removed, and at the proximal the extensor tendons are fixed by ossification to the olecranon. *Hunterian.*

4849. Part of the tarsal bone of a Turkey, the end of which was

removed. Its stump is reduced in size, and covered with thin osseous matter. The long tendon-like bones by which the muscles were inserted are united to the end of the stump. *Hunterian.*

4850. The stump of a tibia, after amputation very near the knee-joint. The end of the stump is much reduced in size, and its anterior surface is covered with new bone, which is very light and cancellous near the end, but more compact and laminated near the knee-joint. *Hunterian.*

Necrosis.

4851. The stump of an arm, amputated above the elbow. The humerus projects half an inch beyond a deep sloughing ulcer of the integuments and other parts surrounding it; its extremity has necrosed, and was in process of separation, a groove having formed above it in which some granulations are imbedded. The ends of the nerves and vessels are traced close to the surface of the ulcer; those of the nerves are not enlarged.

From the Museum of George Langstaff, Esq.

4852. The stump of a thigh, a month after amputation. A thin circle of the end of the bone has necrosed; all the soft tissues have separated from it; a shallow groove is formed above it; and above the groove new bone is formed on the surface of the shaft. The integuments have cicatrized, except over the end of the bone, where there is an aperture opposite the medullary canal. The extremity of the femoral artery is closed, and a small firm decolorized clot of blood is partially adherent to its walls, at a short distance from its closed end. The peroneal and posterior tibial nerves are united at their ends to the substance of the cicatrix behind the femur, and are slightly enlarged.

The bone protruded from the stump, and a vascular growth, which was very painful and bled frequently, projected from its

medullary canal. Numerous collections of matter formed among the muscles of the stump, and with these the patient died.

From the Museum of George Langstaff, Esq.

4853. Part of the stump of a thigh, from a man 70 years old, whose leg was removed for senile gangrene seven weeks before death. A ring at the sawn end of the bone has necrosed, and was in process of separation, a groove and new bone being formed above it. The integuments over the bone are ulcerated. The coats of the artery are "ossified," and both it and the vein are filled with firm clots of blood, which extended as high as the origins of the external iliac vessels. It was not necessary to tie any artery after the amputation.

The case is further detailed in Mr. Langstaff's Catalogue, London, 1842, 8vo, p. 122.

From the Museum of George Langstaff, Esq.

4854. The stump of a leg, which was amputated nearly midway between the knee and the ankle. The fibula was sawn through about three inches higher than the tibia. The end of the stump is extensively ulcerated, and large portions of both the bones are exposed, necrosed, but with little apparent progress towards separation.

This stump was removed by a second amputation, and the patient did well. A large vessel in the substance of the bone bled freely in the second amputation, and it was necessary to stop it with a wooden peg placed in its orifice.

From the Museum of Robert Liston, Esq.

4855. The stump of a femur, of which a small portion of the sawn extremity died and was in process of exfoliation. The tissue of the rest of this extremity is expanded, porous, and soft; and for a considerable distance above it the whole surface of the shaft is covered with irregular deposits of light and finely porous new bone, chiefly abundant at the part from which the dead bone was being exfoliated.

Presented by Sir William Blizard.

4856. The upper part of a femur, after amputation at the junction of its middle and lower thirds. The extremity of the bone has suffered necrosis. A considerable portion of the shaft has also perished, but there is no distinct line of demarcation between the dead and living bone. A very large quantity of new osseous tissue is formed around the original shaft, and some as high as the lesser trochanter. The greater part of the new bone forms a case of irregular form and thickness, surrounding the original shaft, but not adhering to it; some, however, is adherent to the original shaft, and seems to have been deposited upon it before it perished, and to have perished with it.

Presented by Sir William Blizard.

4857. The necrosed end of the stump of a humerus.

From a man about 40 years of age. His right arm was amputated through the middle of the shaft of the humerus, and this piece of bone was exfoliated eight months later.

Presented by John Hilton, Esq., 1866.

4858. Portion of a tibia, of which the extremity perished, and is separated from the adjacent bone by a shallow groove. The groove is continued for a short distance upwards, but the upper boundary of the dead bone is not distinct. The surface of the living bone is ulcerated, and in two situations covered by a thin layer of new bone. *Hunterian.*

4859. The upper part of a femur, in which, after amputation through the lower part of its shaft, a narrow ring of the end of the stump perished. The dead bone is separated from the living by a deep groove, which extends in an irregular line around the shaft. The rest of the shaft was very vascular. *Hunterian.*

4860. Portion of a tibia, from one end of which (apparently after amputation) a considerable exfoliation was taking place. The adjacent part of the shaft has new bone abundantly formed on its surface. *Hunterian.*

4861. The upper part of a femur, in which necrosis ensued after amputation through the middle of its shaft. The upper boundary of the dead bone is not distinct. The shaft, for about four inches above its extremity, is superficially ulcerated, and still higher up is perforated with numerous minute apertures for enlarged blood-vessels. *Hunterian.*

4862. Part of a femur, of which the end perished after amputation through the middle of the shaft. The greater part of the ring of dead bone has exfoliated. Immediately above and around the seat of the exfoliation a large quantity of new bone has been formed ; and a thin layer of it extends up the exterior of the shaft. *Hunterian.*

4863. Part of a femur, from the end of which an annular portion exfoliated after amputation. The extremity is smooth but porous, like ulcerated cancellous tissue : there is a cavity in its centre, and it is surrounded with a small quantity of new bone. *Hunterian.*

4864. Part of a femur, from the end of which portions exfoliated after amputation. The necrosis seems to have affected only parts of the wall, for the cancellous tissue remains entire in the midst of the cavities from which the sequestra were removed. New bone has been formed abundantly on all the remaining part of the shaft. *Hunterian.*

4865. The stump of the last phalanx of an amputated finger. A sequestrum appears to have been separated from part of its anterior surface, and above this part a thin layer of porous new bone is deposited on it. *Hunterian.*

4866. Part of a tibia in which, after amputation, a portion of the wall, seven inches long, perished, and was in process of separation. New bone has been abundantly produced upon the living portion of the shaft near that which perished. *Hunterian.*

4867. The stump of a femur, in which necrosis and ulceration has extended through nearly ten inches of the anterior part of the shaft, reaching almost as far as the trochanter. The boundary of the dead bone is not marked; where the bone is not dead or ulcerated, new bone is abundantly deposited on its surface. The whole of the bone above the chief seat of disease appears also to have been unnaturally vascular.

Presented by Sir William Blizard.

4868. The stump of a femur, in which a portion of the end of the shaft, five inches long, and including about half its circumference, perished. The sequestrum lies loose in a thick-walled cavity of new bone, formed on the remains of the walls of the shaft. The new bone has been especially produced in front, where it forms a thick smooth layer: behind, it is less in quantity and has several large round ulcerated apertures in it. *Presented by Sir William Blizard.*

4869. A similar specimen; but the dead portion of bone is larger, comprising the whole circumference of the shaft, and is not yet completely separated. The new bone also is less abundant and less compact.

Presented by Sir William Blizard.

4870. A similar specimen. The sequestrum, about seven inches long, including at its lower part the whole circumference of the shaft, and gradually tapering to its upper end, is completely separated, and lies loose in an imperfect case of new bone formed on those parts of the old wall of the shaft which did not perish. *Presented by Sir William Blizard.*

4871. A similar specimen, with two large separated sequestra. In this, as in the preceding specimens, the anterior part of the case of new bone is complete; but there are many large apertures in the posterior part.

Presented by Sir William Blizard.

4872. The stump of a left femur, five inches of which suffered

necrosis, and lies loose in a very thick-walled and complete case of new bone. The axis of this case has a different direction from that of the original femur, being bent backwards at an obtuse angle.

The patient lived nearly three years after the amputation, which was performed for a disease of the knee-joint.

Presented by Sir Stephen L. Hammick.

4873. Nine large sequestra, exfoliated after amputations of thighs. They all include the whole, or nearly the whole, of the shaft at their sawn extremities, and all become smaller higher up. They all include less of the medullary tissue than of the walls of the shaft. There are deposits of new bone on the surfaces of some of them. *Hunterian.*

4874. Two similar sequestra, from the ends of humeri after amputations. Each of them includes nearly the whole thickness of the shaft, and is upwards of five inches long.

Presented by Sir William Blizard.

Enlargement of the Nerves.

4875. The stump of a leg, amputated just below the tubercle of the tibia. The ends of the bones are smoothly rounded, and are covered with a thin layer of fibrous tissue, on which the cicatrix of the integuments is depressed and closely adherent. The nerves are enlarged at their extremities. Part of the popliteus muscle is shown, but scarcely a trace of muscular fibre can be discerned in it.

The patient had severe pain in the stump for many years, and could not wear an artificial leg.

This and most of the following preparations of stumps from Mr. Langstaff's Museum are further described in his "Practical Observations on the Healthy and Morbid Conditions of Stumps," in the 'Medico-Chirurgical Transactions,' vol. xvi. p. 129, London, 1830.

From the Museum of George Langstaff, Esq.

4876. The stump of a femur, amputated thirty years before

death. The end of the bone is covered with granulations, which form part of a granulating ulcer at the end of the stump. A spiculum of new bone projects from its posterior surface. The posterior tibial and peroneal nerves are enlarged, and bulbous at their extremities; one of them is retracted nearly two inches above the end of the bone; they are both firmly united to the substance of the cicatrix. The femoral and popliteal artery, and some of its branches, are injected; the trunk is small, the branches as large as usual, or larger.

The patient was 70 years old when he died of apoplexy. The stump never completely healed, and he often suffered severe pain extending upwards from it to the hip in the course of the sciatic nerve; he also often had hæmorrhage from it.

From the Museum of George Langstaff, Esq.

4877. A knee-joint, with the stump of a tibia and fibula, from a man 59 years old, whose leg was amputated twenty years before death. The upper parts of the muscles of the leg, the branches of the sciatic nerve, the popliteal artery and vein, and several of their branches, are all connected in a mass of tough white tissue of cicatrix, by which also the ends of the bones are thinly covered. The muscular fasciculi are pale, soft, and widely separated by fat; the ends of the nerves (so far as they are exposed) are bulbous. The cartilages of the femur and patella are irregularly thinned, and in some parts fibrous.

The stump in this case did not heal well, and frequently ulcerated near the ends of the bones; it was occasionally, also, the seat of severe pain.

From the Museum of George Langstaff, Esq.

4878. The end of the stump of a femur. The posterior tibial and peroneal nerves are shown, each having a bulbous enlargement at its lower end, which is connected by a band of fibrous tissue to a strong process of bone, an inch long, which has grown-out from the posterior surface of the end of the femur. This process is directed straight backwards: another of smaller size is directed obliquely upwards and

backwards. The end of the stump of the femur is smoothly rounded, and its medullary canal is covered with a thin layer of bone.

The limb was removed twenty years before death for scrofulous disease of the knee-joint. It was long in healing; the bone projected from it, and the patient suffered greatly from it for many years. He died with phthisis.

From the Museum of George Langstaff, Esq.

4879. A similar preparation, in which the cicatrix of the integuments is also preserved. The ends of the posterior tibial and peroneal nerves are united in one large bulb, and the popliteal artery and vein are obliterated about two inches above the surface of the stump. The end of the femur is covered with a thick cicatrix, upon which the integuments are deeply depressed; its margins are rounded, and two strong processes of bone, like those last described, are attached to its posterior surface near the linea aspera. One of these processes is said to have greatly irritated the muscle with which it was in contact.

From the Museum of George Langstaff, Esq.

Sarcoma.

4880. The extremity of the stump of a humerus affected with sarcoma. The stump is conical and projecting from the skin. Covering one half of its extremity is a thick layer of new growth nodulated and, at one point, ulcerated on the surface.

Under the microscope the tumour showed bands composed of spindle-cells.

From a man, aged 35, whose left arm was removed by a circular amputation when he was 7 years of age. The bone always protruded. Two years before he came under observation the integuments were knocked off the end of it, and since that time the growth had appeared. He died a few months after the reamputation with spindle-celled sarcomatous growths in the parietal peritoneum, mesentery, and omentum.

Presented by Dr. W. Newman, 1884.

Other examples of Stumps after Amputation are in the Series of Injuries and Diseases of Bones.

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